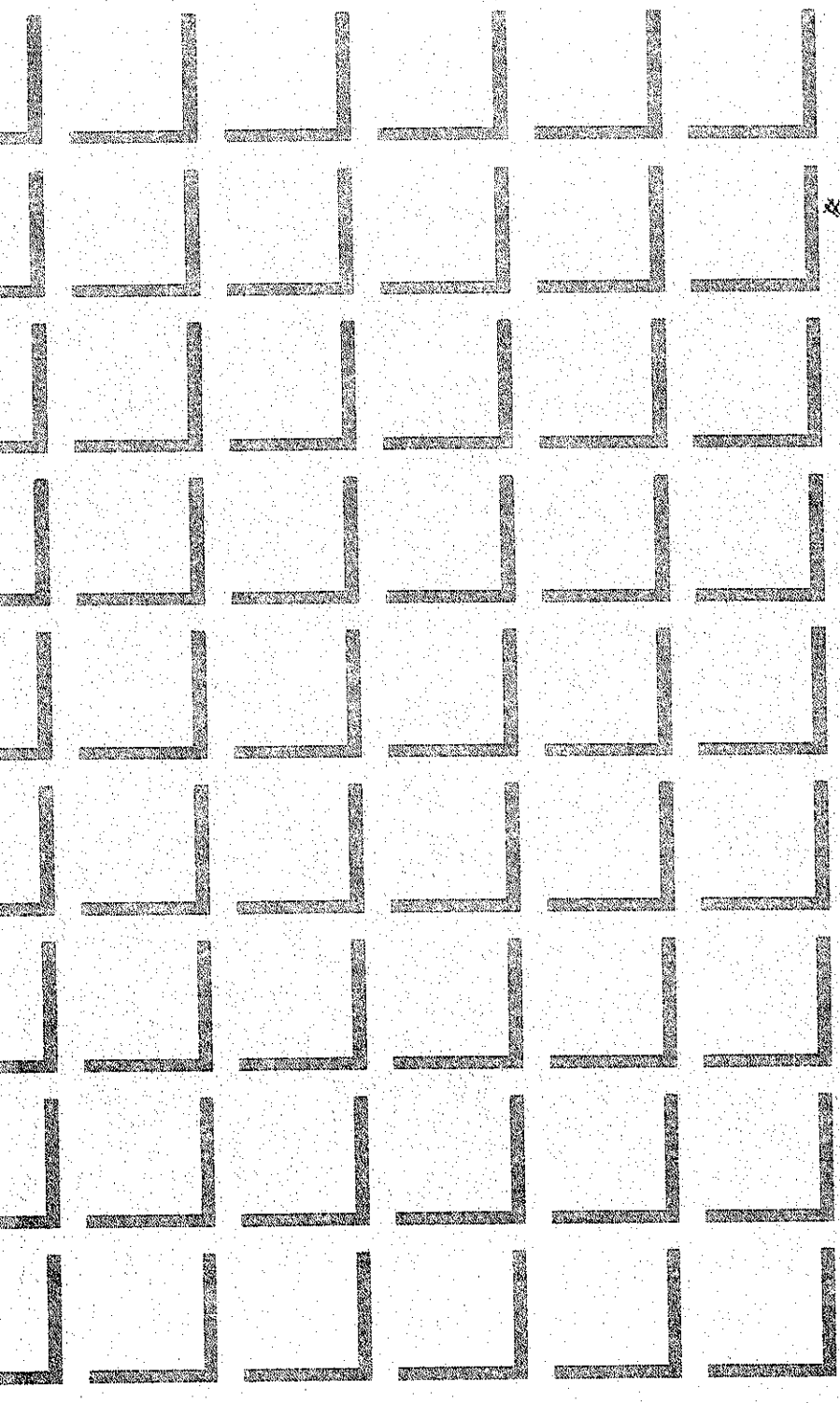
Panasonic



Operating Instructions

Colour Television

TC-29GA30R
TX-29GA30X

Please read these instructions before operating your set and retain them for future reference.

TQB4G0200

Dear Panasonic Customer

Welcome to the Panasonic family of Customers. We hope that you will have many years of enjoyment from your new colour television set.

To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference.

Retain your purchase receipt also, and note down the Serial Number of your set in the space provided on the rear cover of these Instructions.

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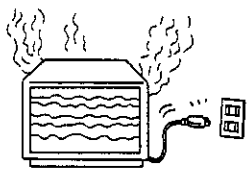
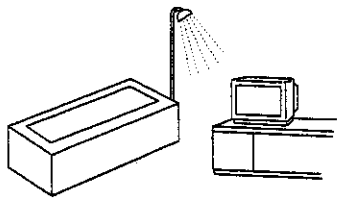
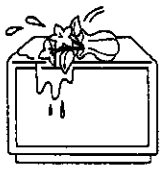
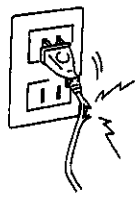
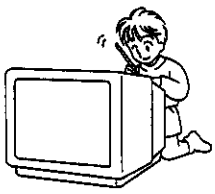
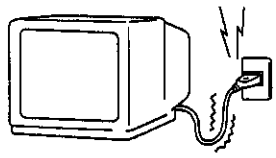
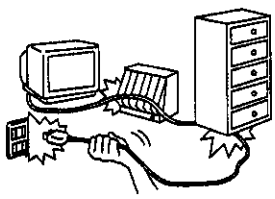
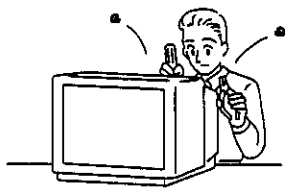
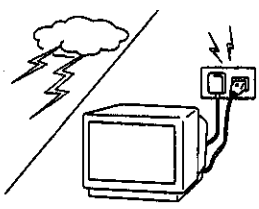
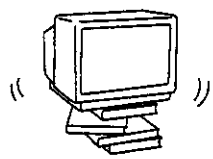
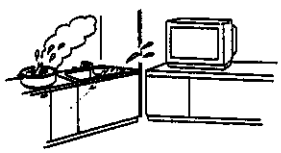
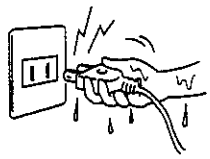
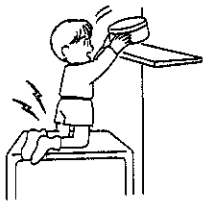
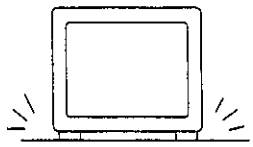
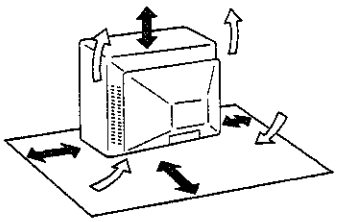
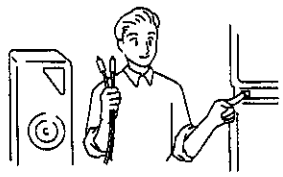
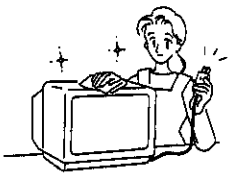
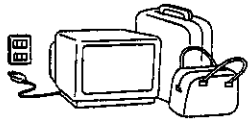
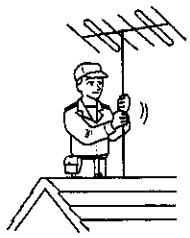
⚠ Warnings

	Unplug the power cord in the event of any malfunction (screen goes blank, no sound, odd sounds, smoke or unusual odors coming from the unit). Unplug the power cord if foreign matter or water falls into the unit, or if the television is dropped or the cabinet is damaged.		DO NOT use this product near water. (near a bath tub, etc.)
	DO NOT place any of the following on the Television: Flower vases, flower pots, cups, small metal objects, or cosmetics containers, chemicals or water.		DO NOT use if the power cord or power plug is damaged, or if the plug does not fit tightly into the socket.
	DO NOT insert foreign objects (metal or easily flammable objects).		DO NOT use at a voltage other than indicated.
	TAKE CARE NOT to damage the power cord.		DO NOT remove the rear cover as live parts and High Voltage components are accessible when the rear cover is removed.
	DO NOT touch the aerial cord and this product when there is lighting.		DO NOT place in an unstable location.

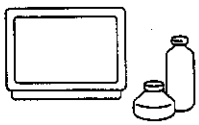
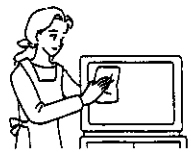
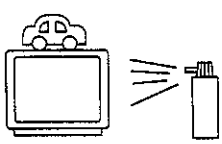
⚠ Cautions

	DO NOT place in humid or dusty locations, or areas exposed to smoke or steam.		DO NOT touch the power plug if your hands are wet.

⚠ Cautions

	DO NOT stand, or place heavy objects on the Television. Particular care should be taken by families with small children.		Place in a safe location.
	Place in a well ventilated area at least 10 cm. from the wall (↔).		Turn the power "Off" before connecting other electrical equipment.
	Before cleaning, unplug the power plug from the socket.		DO NOT jolt the TV.
	Unplug the power plug from the socket if you are not going to use the unit for an extended period.		Ask your sales outlet to install the aerial.

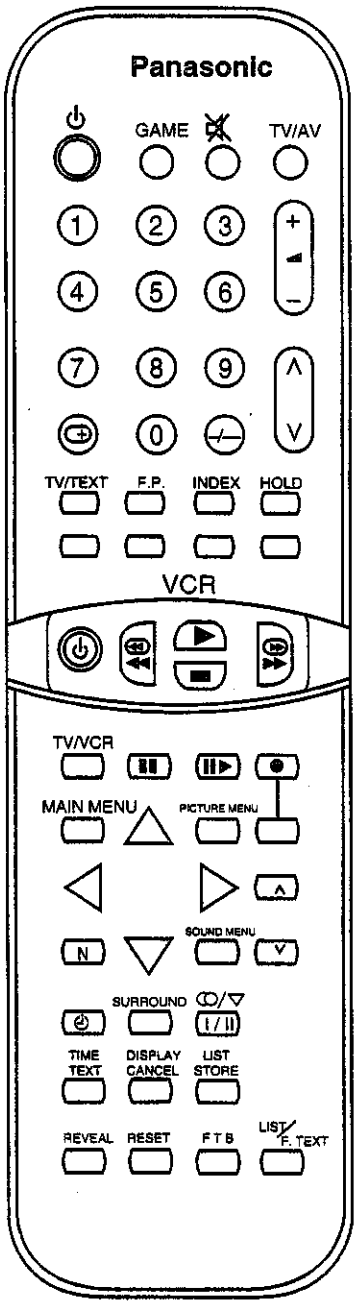
Cleaning

	The unit contains many plastic parts. For this reason DO NOT use benzine, thinner or other chemicals to clean the unit.		Dust will accumulate on the picture screen. Please wipe with a soft cloth from time to time. If you use a chemically treated cloth, please be careful to follow the instructions that come with the cloth.
	DO NOT bring into contact with insecticide or other volatile substances. DO NOT allow the unit to come into contact for extended periods with rubber or vinyl products.		Remove dirt and soiling by wiping with a light cloth. Even if the television is heavily soiled, do not apply cleaner directly to the unit. Soak a cloth in a solution of neutral cleanser thinned with water. Then wring out the cloth, wipe the television clean, and finish by wiping with a dry cloth.

How to Use This Manual

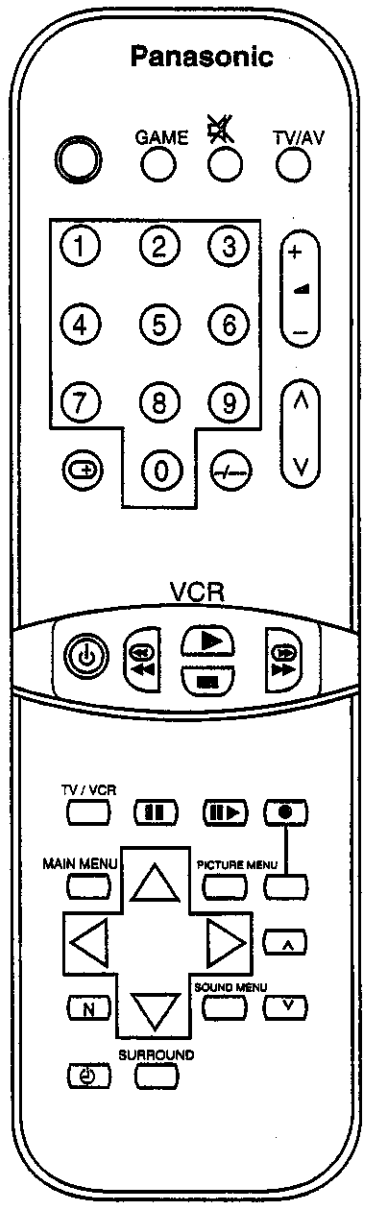
1. Check the Model Number of your TV set; the Model Number is shown on the rear cover name plate on the set. Use the table on the opposite page to confirm which features your particular Model is equipped with. This will help you to know which sections of the manual apply to your set.
2. Check the Part Number on the rear of your Remote Control handpiece, and note the functions available, as shown below.

TX–29GA30X



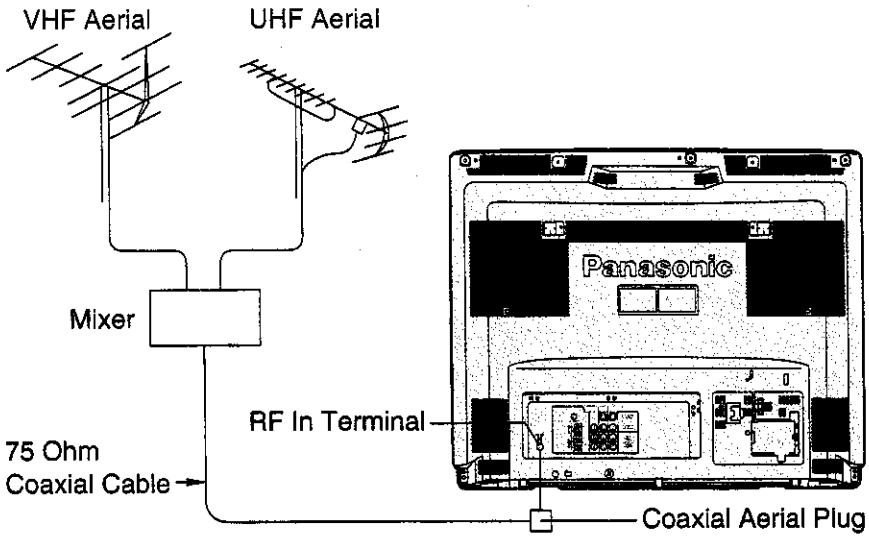
(Part No. EUR51913)

TC–29GA30R



(Part No. EUR51912)

Connect the Aerial Cable to the RF In Terminal

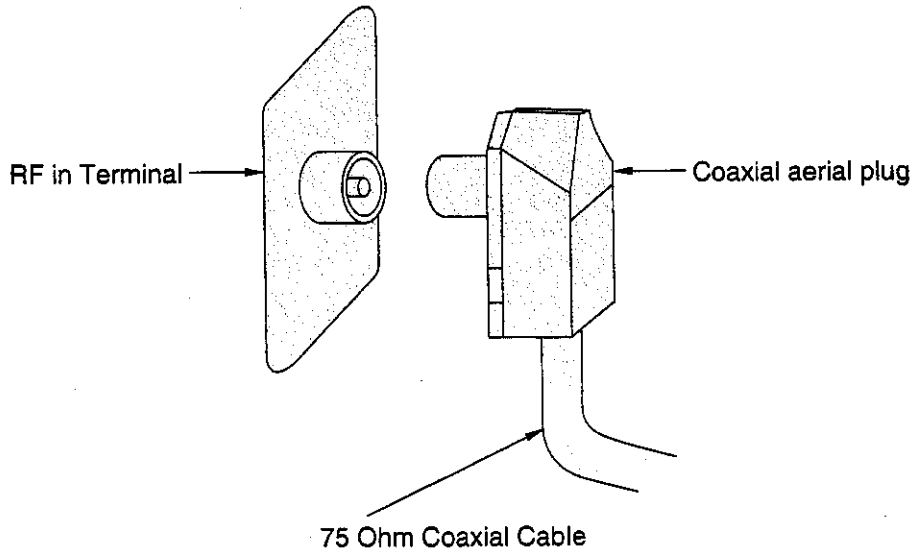


To obtain optimum quality picture and sound, an Aerial, the correct cable (75 Ohm coaxial) and the correct terminating plug are required.

If a communal Aerial system is used, you may require the correct connection cable and plug between the wall Aerial socket and your television receiver.

Your local Television Service Centre or Dealer may be able to assist you in obtaining the correct Aerial system for your particular area and accessories required.

Any matters regarding Aerial installation, upgrading of existing systems or accessories required, and the costs incurred, are the responsibility of you, the Customer.

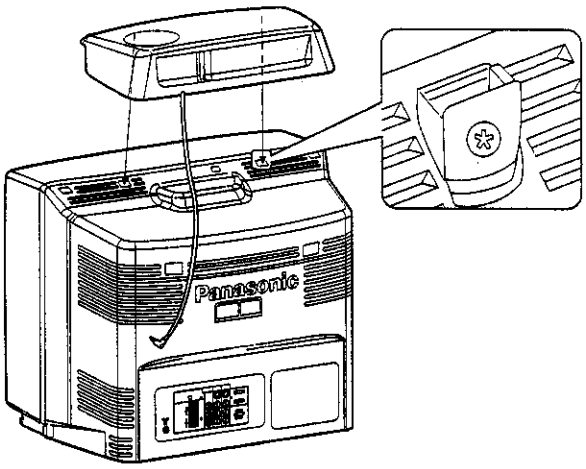


Connecting 3D Woofer Speakers

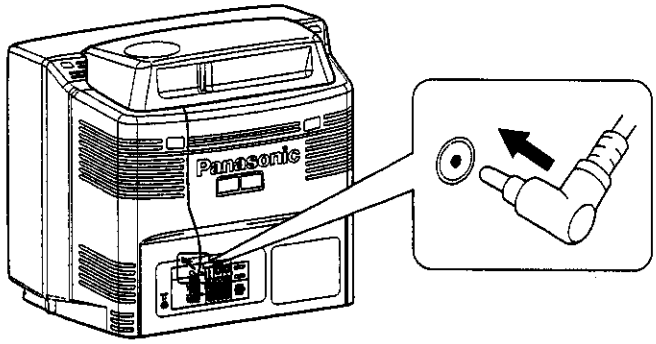
Connect the 3D woofer speaker as follows.

When a 3D woofer speaker plug is inserted into the 3D Woofer Terminal.

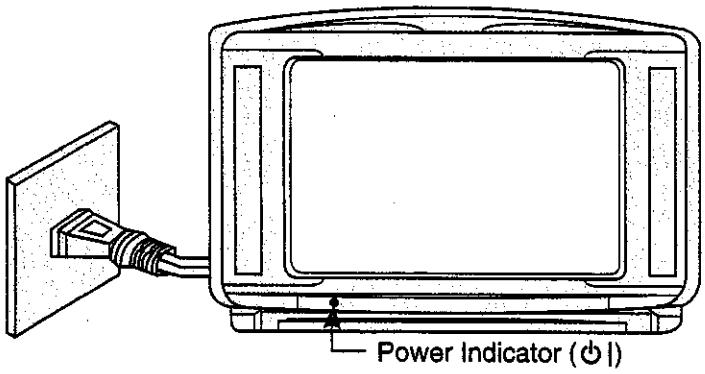
1. Fix the 3D woofer speaker to the position as shown below.



2. Insert the 3D woofer speaker plug into the 3D woofer terminal.

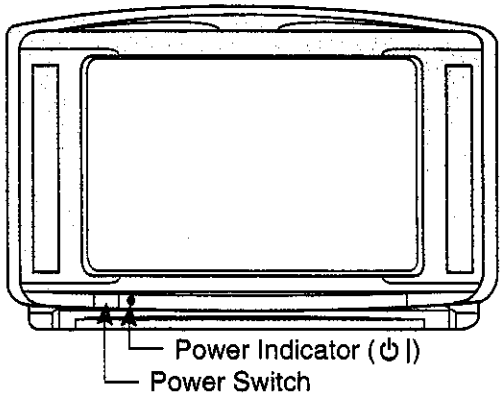


Connect the Plug to the Wall Outlet



Note:
Mains plug types vary between countries. The mains plug shown at left may therefore not be the type fitted to your set.
When connecting the mains plug to the wall outlet, the power indicator will light (Orange).

How to Turn the Power On



Push the Power switch on the Television to turn the set on.

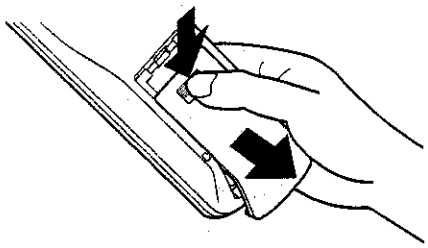
The Power Indicator will light.

Power-OFF ..... Orange
Stand-by ⏻ ..... Red
Power-ON ..... Green

Note:
When in the Stand-by condition (Refer to page 24), it is possible to turn the TV set on by pushing the "Power (Stand-by)" Button or the Programme Number Up and Down Buttons on the TV set or Remote Control.

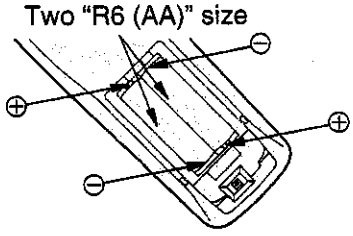
Battery Installation

1



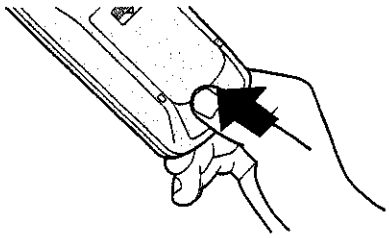
Open the cover.
Apply slight downward pressure while pulling towards the bottom.

2



Batteries: Use two "R6 (AA)" size batteries.
Insert the batteries ensuring correct polarity.
This is identifiable by the "+" and "–" symbols on both the batteries and inside the battery compartment.

3



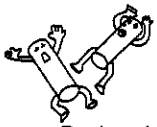
Replace the cover.

Do not use rechargeable (Ni-Cd) batteries.
They are different in shape and performance and may fail to ensure correct operation.

⚠ Battery cautions

The incorrect use of batteries can cause electrolyte leakage which will corrode the Remote Control or cause the batteries to burst.

Old Batteries



New Batteries

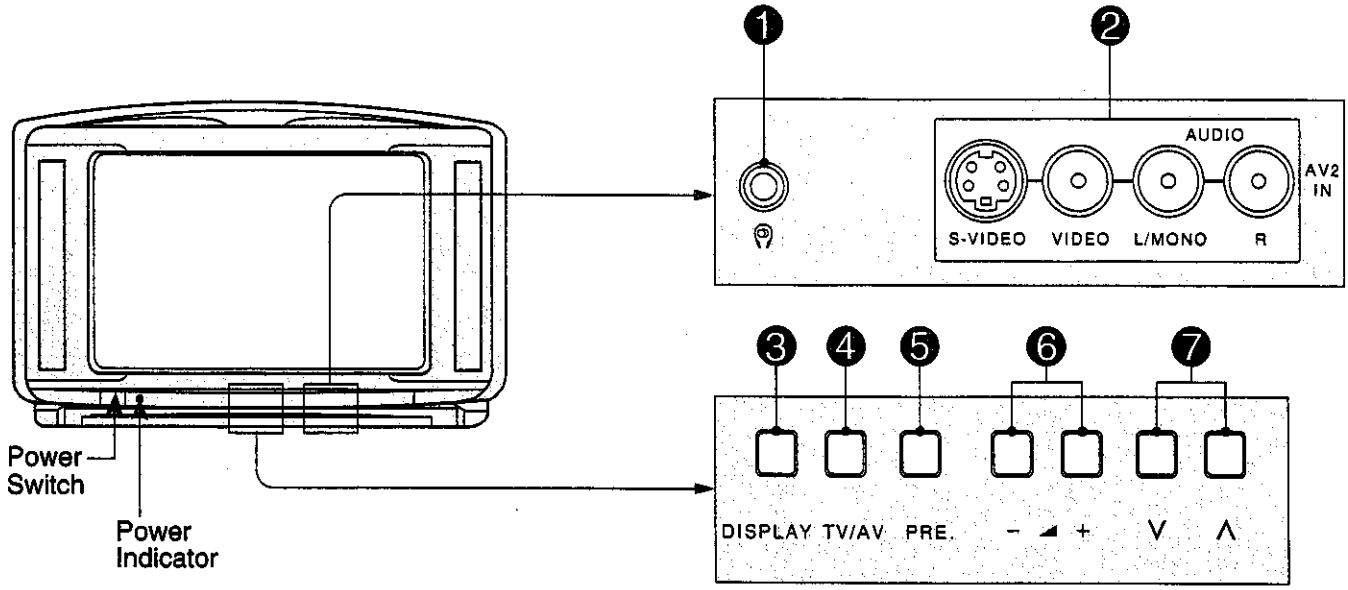
Replace both batteries at the same time.

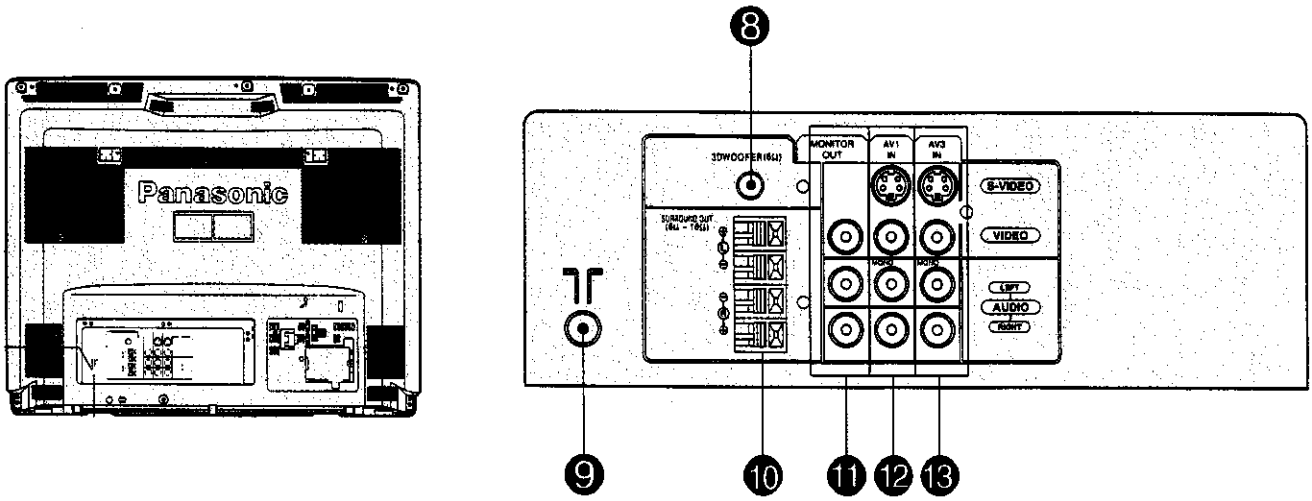
Don't mix battery types
(alkaline with carbon zinc, etc.)

Don't Recharge.

Location of Controls

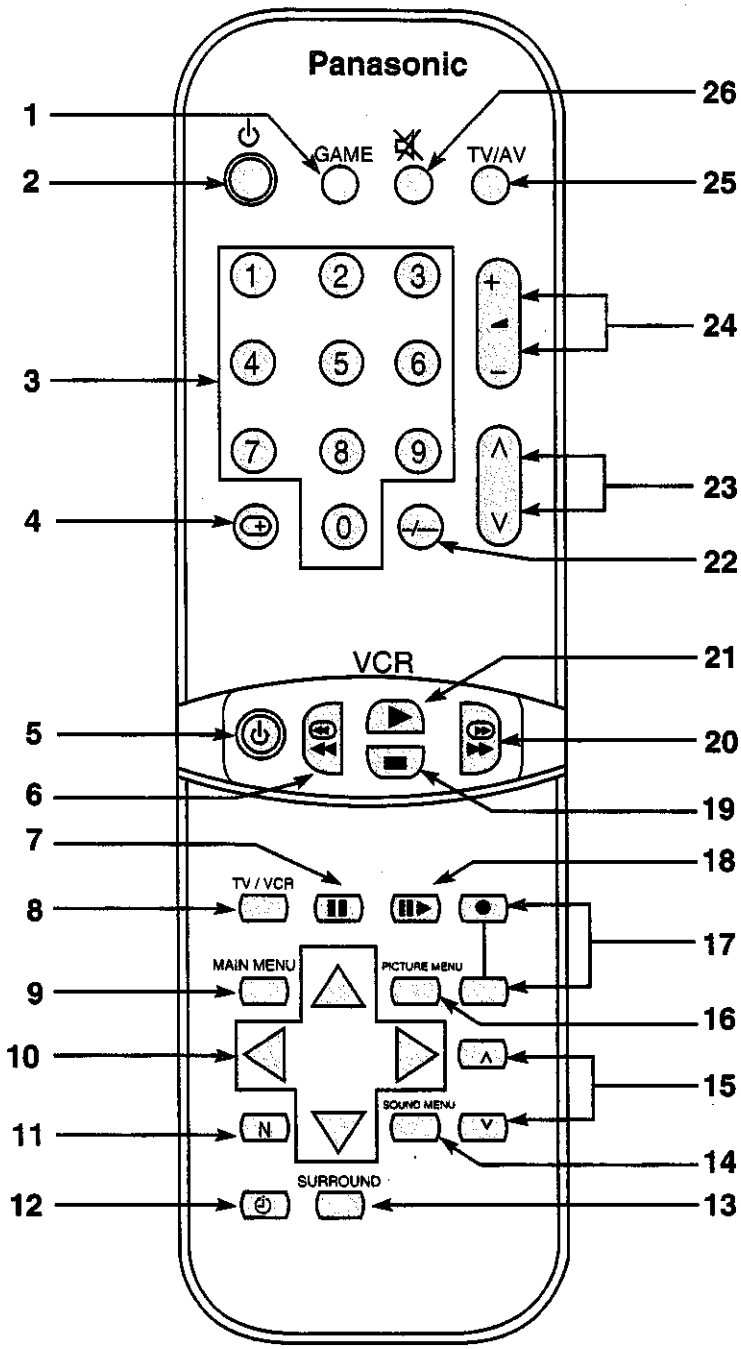
Controls and Terminals on the TV





Item No.	Description/Function	Refer to Page	Item No.	Description/Function	Refer to Page
1	Headphones Jack	15	8	3D Woofer Speaker Terminal	8
2	AV2 Input Terminals	13	9	Aerial Terminal (Also called the "RF In Terminal")	7
3	Display	25	10	Surround Speaker Terminals	15
4	TV/AV Selection	24	11	Monitor Output Terminals	14
5	Preset	18, 19, 20	12	AV1 Input Terminals	13
6	Volume Up (+) and Down (–)	25	13	AV3 Input Terminals	13
7	Programme Number Up (∧) and Down (∨)	24			

Remote Control



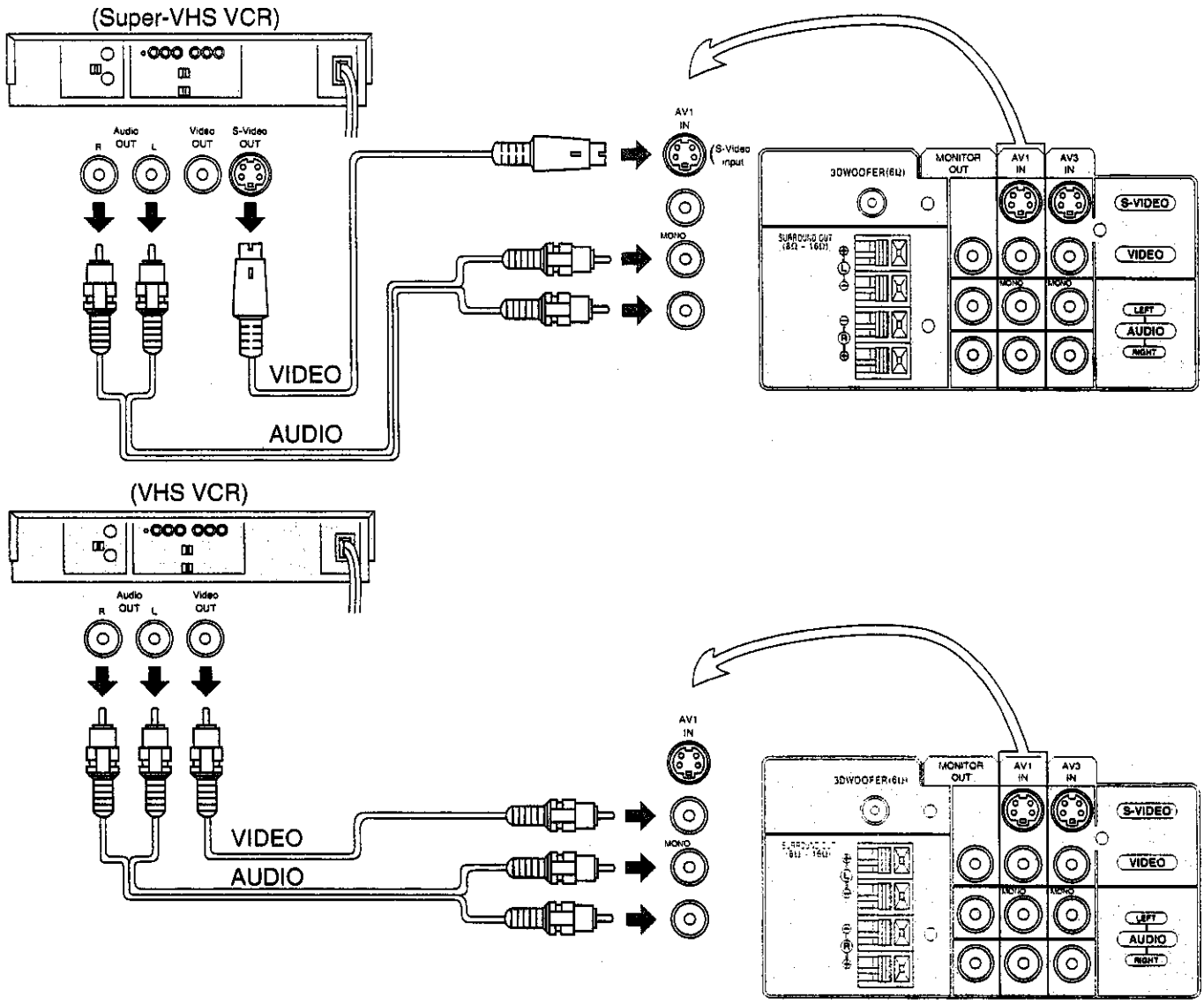
Note :

This illustration shows the Remote Control with maximum features.
(Remote Control No. EUR51912)

Location of Controls

Item No.	Function	Refer to Page	Item No.	Function	Refer to Page
1.	GAME mode	25	14	SOUND MENU	31
2.	Power (Stand–by)	24	15.	Programme Number Up and Down buttons for VCR	36
3.	Direct Programme Number Selection	24	16.	PICTURE MENU	30
4.	Recall	25	17.	RECORD buttons	36
5.	VCR Power	36	18.	VCR Still Advance	36
6.	VCR Rewind/Review	36	19.	VCR Stop	36
7.	VCR Pause Still	36	20.	VCR Fast Forward	36
8.	TV/VCR mode selection	36	21.	VCR Play	36
9.	MAIN MENU selection	32	22.	Two Digit Programme Number Selection	24
10.	Position buttons	32	23.	Programme Number Up and Down	24
11.	Normalisation	33	24.	Volume Up and Down	25
12.	OFF TIMER	25	25.	TV/AV Selection mode	24
13.	SURROUND	27	26.	Sound Mute	25

How to connect the "AV1, 2 or 3" Input Terminals.



Note:

(1) When AV1, AV2 or AV3 is selected, and that AV mode has no input picture signal, the Background Colour of the TV screen will change. (This only occurs if the Blue-Back function is set to the ON condition; refer to pages 34 and 35 for details.)

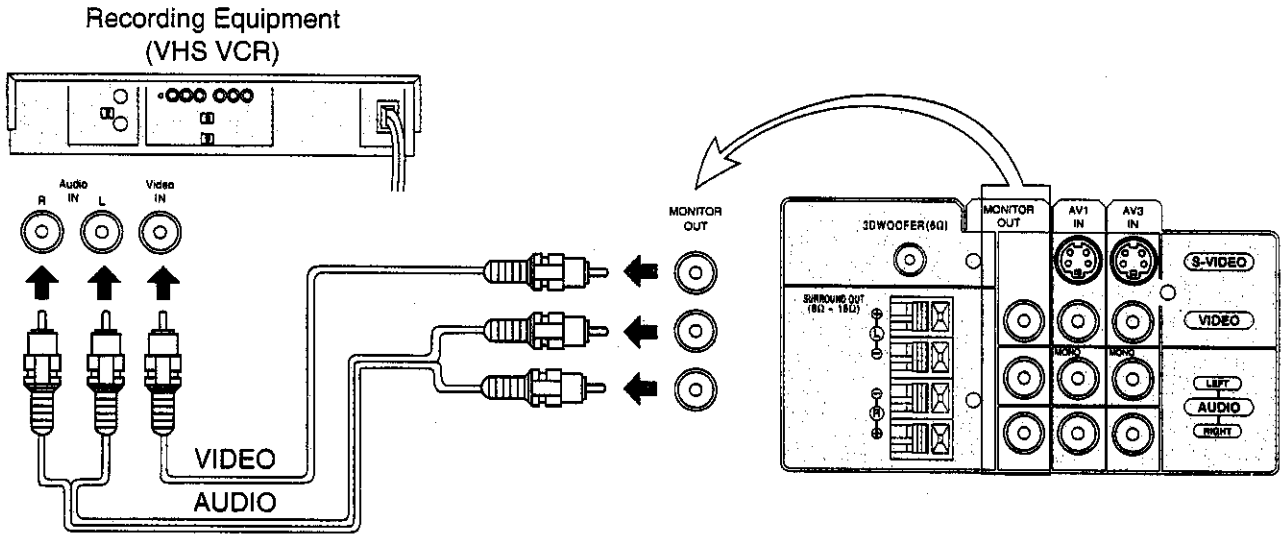
(2) When an S-Video cable is connected to the S-Video terminal, the Phono Video input will be automatically switched off for that AV mode.

(3) When a Monaural VCR is used, connect the Monaural Audio cable to the Audio "L" (Left) terminal.

(4) Similar connections are available at the AV1, AV2 and AV3 input terminals.
Select the desired AV input position by pushing the TV/AV button. (Refer to page 24)

How to connect the AV Monitor Output Terminals to other equipment.

The "Monitor Out" Terminals output the same signals as are on the TV screen at that time, e.g. TV programmes or signals from AV1, AV2 or AV3 input.

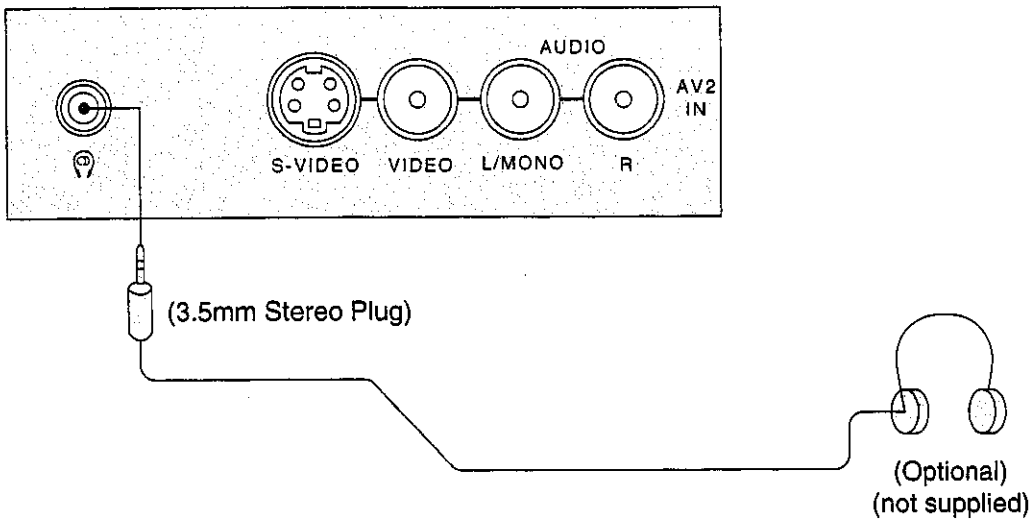


Note:
Never connect the same video recorder with both the VIDEO IN and MONITOR OUT Terminals on this TV set, as this could cause incorrect operation.

Connecting Headphones

Connect headphones as follows.

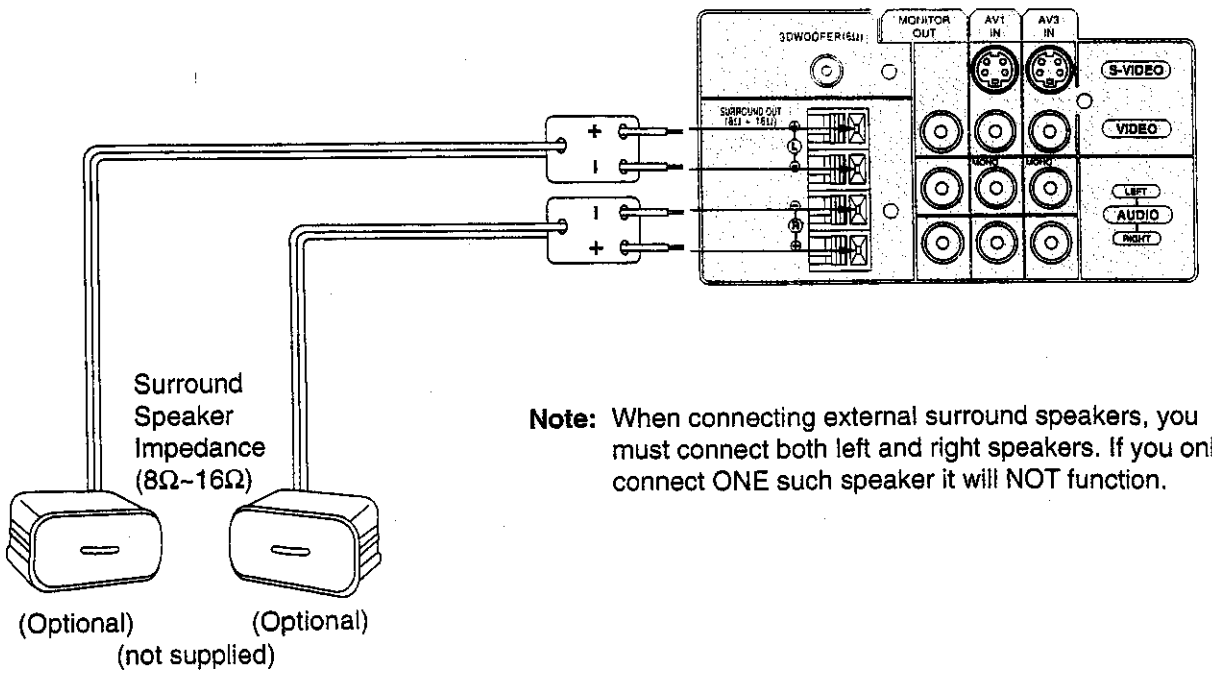
When a Headphones plug is inserted into the Headphones socket all speakers will be automatically disconnected; only the Headphones will function.



Connecting Surround Speakers

Connect the surround speakers as follows.

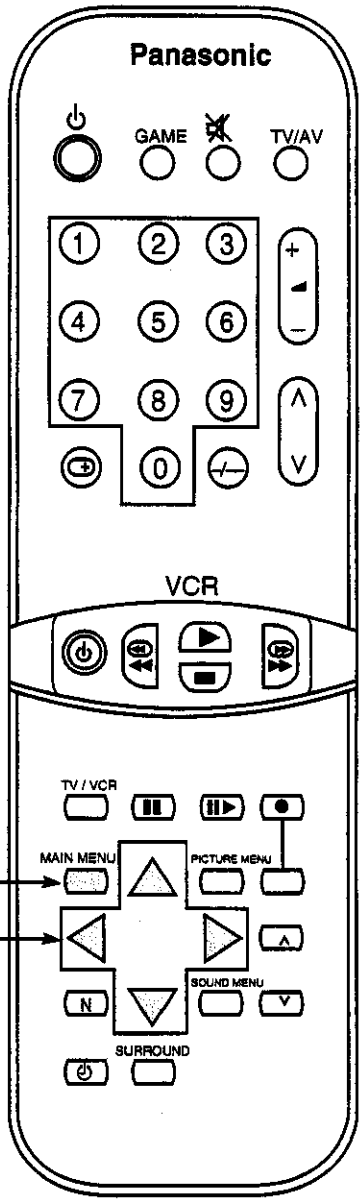
The Surround effect is enhanced by connecting external surround speakers. (optional)
Although it is possible to enjoy the "Surround effect" with this TV set as it is, upon connecting separate "Surround Speakers" the presence of the enveloping sound becomes more vivid.



Note: When connecting external surround speakers, you must connect both left and right speakers. If you only connect ONE such speaker it will NOT function.

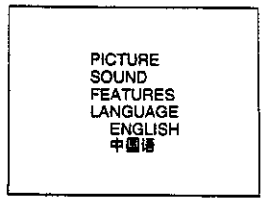
How to Select the LANGUAGE Function

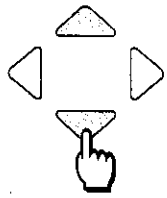
Languages display on-screen can be selected by following method.



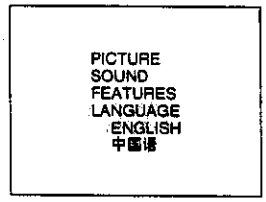
1

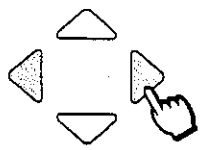
Push the "Main Menu" Button.



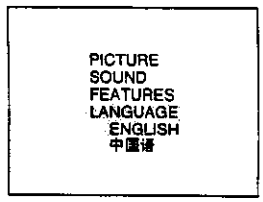
2 

Push the "Position Up or Down" Button until your desired language position is reached.



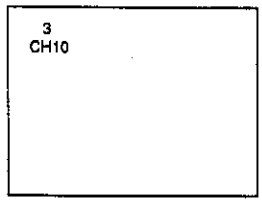
3 

Push the "Position Left or Right" Button. The on-screen language display will change.



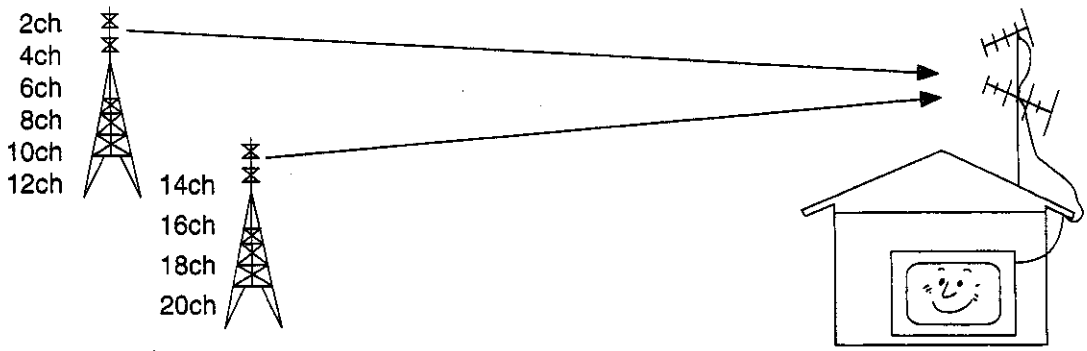
4

Push the "Main Menu" Button again to return to the normal viewing condition.



Channel Selection

Select the most easily viewed channel selection method.



Example

Programme Number	Channel Display	Received Channel
1	2	2
2	4	4
3	6	6
4	8	8
5	10	10
6	12	12
7	14	14
8	16	16
9	18	18
10	20	20

POSITION SELECT

When the Channel Selection is on POS. (Position), and Auto Search is performed, the unit memories the channels searched in order from Programme No.1.

Push the button ① to view channel 2.
Push the button ② to view channel 4.
Push the button ③ to view channel 6.

During Position mode various reception channels can be viewed.

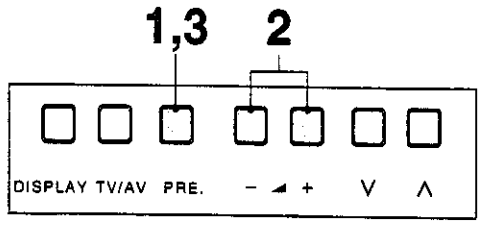
Example

Programme Number	Channel Display	Received Channel
1	–	–
2	2	2
3	–	–
4	4	4
5	–	–
6	6	6
7	–	–
8	8	8
9	–	–
10	10	10
⋮	⋮	⋮
20	20	20
⋮	⋮	⋮

DIRECT SELECT

When the Channel Selection is on DIRECT, and Auto Search is performed, the unit memories the programme number which is the same as the channel searched.

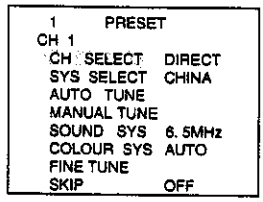
This method allows you to select the desired channel by pushing the channel display number directly on the remote control to select the station.



Before Country System Selection and AUTO SEARCH tuning, set the "CHANNEL SELECT" mode, as detailed below.

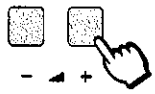
1

Push the "PRE." (PRESET) Button, setting the Preset Menu to "CH SELECT".



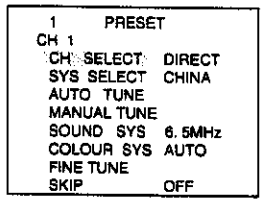
"CH SELECT" Condition.

2



Select the "CH SELECT (Channel Select)" Mode by pushing the Volume Up "+" or Down "–" Button.

- Setting range when the "POS." (Position) has been selected:
  Position 0–99
- Setting range when the "DIRECT" has been selected:
  Channel 0–125

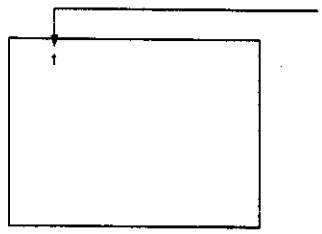


The channel select indicator will change as follows.
DIRECT ⟷ POS.

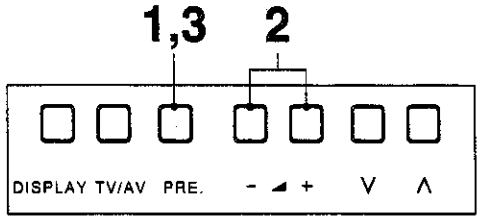
3

Push the "PRE." (PRESET) Button 8 times.

This returns the set to the normal viewing condition.



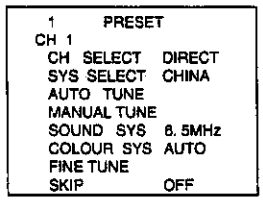
Country System Selection



Before AUTO SEARCH tuning and MANUAL SEARCH tuning, set the "SYSTEM SELECT" mode, as detailed below.

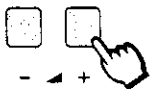
1

Push the "PRE." (PRESET) Button twice, setting the Preset Menu to "SYS SELECT".

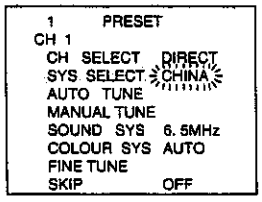


"SYS SELECT" Condition.

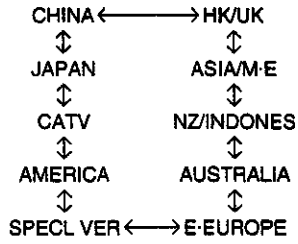
2



Select the appropriate System by pushing the Volume Up "+" or Down "–" Button, referring to "System Select by Country" as shown below.



The system select indicator will change as follows.



3

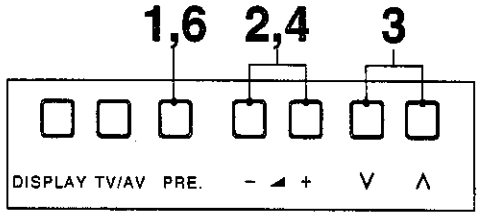
Push the "PRE." (PRESET) Button 7 times.

This returns the set to the normal viewing condition.

System Select by Country

SYSTEM SELECT	COUNTRY
CHINA	China
HK/UK	Hong Kong, United Kingdom
ASIA/M•E	Malaysia, Singapore, Thailand, Asia countries, Kuwait, Saudi Arabia, United Arb Emirates, Egypt, Iran, Pakistan, India, Middle East countries, etc.
NZ/INDONES	New Zealand, Indonesia, etc.
AUSTRALIA	Australia
E•EUROPE	CIS, Poland, etc.
SPECL VER	South Africa
AMERICA	U.S.A., Chile, Mexico, Panama, Peru, Philippines, Taiwan, Venezuela, etc.
CATV	USA CATV
JAPAN	Japan

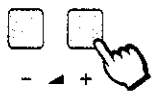
Automatic Tune (Channel Select and Country System must already be set; Refer to pages 18 to 21)



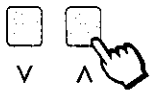
This TV uses automatic tuning to determine whether or not a broadcast signal is being sent which it can receive, and automatically prepares so that the channel selection can respond to both the position select and direct select modes.

1

Push the "PRE." (PRESET) Button 3 times, setting the Preset Menu to "AUTO TUNE".

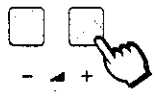
2 

Push the Volume Up "+" Button.

3 

Confirm that acceptable sound (audio) is heard for each Programme Number, using the Programme Number Up "Λ" Button.
If the Sound is not clear or no Sound is produced on a Programme Number, then follow the next step.

Note:
When sound volume is too small to confirm, turn it up by using the sound volume button on the remote control.

4 

If necessary, push the Volume Up "+" or Down "–" Button until the optimum Sound is obtained. The sound indicator will change as follows.

4.5MHz↔5.5MHz↔6.0MHz↔6.5MHz

5

Repeat Steps 3 to 4 for each Programme Number.

6

After all stations are tuned, push the "PRESET" Button 4 times, to return the set to the normal viewing condition.

Helpful Hint

(1) If a clear picture with correct colours cannot be obtained when a Broadcast or AV signal is received, refer to the "Colour System Selection" operation on page 26.

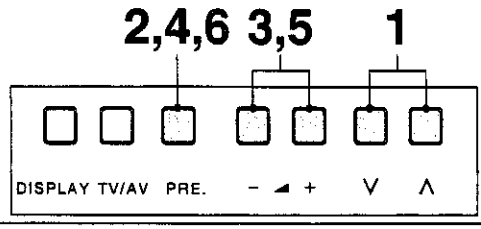
(2) After the Automatic Search is finished, push the Programme Number "Up" Button to confirm the tuning condition for each Programme Number. If some Programme Numbers are unused, it is possible to skip such Programme Numbers. Please refer to the Programme Number Skip operation on page 23.

(3) Repeated pushing of the "PRE." (PRESET) button changes the Preset Menu as follows;

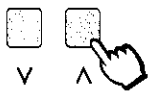
→ CH SELECT (Page 17) → SYS SELECT (Page 19) → AUTO TUNE (Page 20) → MANUAL TUNE (Page 21) → SOUND SYS (Page 26)

TV Mode (Normal viewing condition) ← SKIP (Page 23) ← FINE TUNE (Page 22) ← COLOUR SYS (Page 26) ←

Manual Tune (Channel Select and Country System must already be set; Refer to pages 18 to 21)



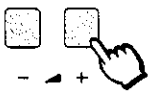
Using manual tuning search, you can yourself tune broadcast transmission on Programme Numbers that you think are appropriate.

1 

Push either the Programme Number Up "Λ" or Down "V" Button, to select the Programme Number (memory location) in which you wish to store the desired broadcast transmission channel.

2

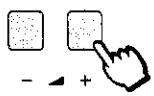
Push the "PRE." (PRESET) Button 4 times, setting the Preset menu to "MANUAL TUNE".

3 

Push the Volume Up "+" or Down "–" Button.
Volume "+" : Next higher Channel is tuned.
Volume "–" : Next lower Channel is tuned.

4

Push the "PRE." (PRESET) Button, setting the Preset menu to "SOUND SYS".

5 

If the sound is not clear or no sound is produced on a Programme Number push the Volume Up "+" or Down "–" Button, until the optimum sound is obtained.
The sound indicator will change as follows;

4.5MHz↔5.5MHz↔6.0MHz↔6.5MHz

Note: When sound volume is too small to confirm, turn it up by using the sound volume button on the remote control.

6

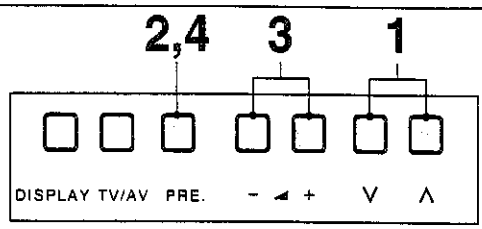
Push the "PRE." (PRESET) Button 4 times, to return the set to the normal viewing condition.

Helpful Hint

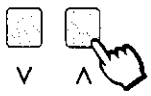
(1) If a clear picture cannot be obtained even when a Broadcast or AV signal is received, refer to the "Colour System Selection" operation on page 26.

(2) After the Manual Search is finished, push the Programme Number "Up" Button to confirm the tuning condition for each Programme Number. If Programme Numbers are unused, it is possible to skip such Programme Numbers. Please refer to the Programme Number Skip operation on page 23.

Fine Tuning



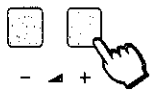
Under normal reception conditions this function is not required or necessary.
However, in areas of poor reception or constant interference, a slight adjustment of the tuning may improve the picture and sound quality.

1 

Select the channel which you want to try to improve, using the Programme Number Up "Λ" or Down "V" Buttons.

2

Push the "PRE." (PRESET) Button 7 times, setting the Preset menu to "FINE TUNE".

3 

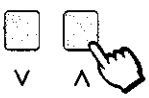
Push and hold the Volume Up "+" or Down "–" Button until a clearer picture is received.
The "■" symbol appears to the left of the Programme Number, after fine tuning has been adjusted. This symbol tells you that the set's Automatic Fine Tuning has been disabled for that Programme Numbers.

4

Push the "PRE." (PRESET) Button twice, to return the set to the normal viewing condition.

How to Cancel the Fine Tuning Function

Cancelling previously adjusted (manually) fine tuning, means re-activating the AFC (Automatic Frequency Control) Function, also known as AFT (Automatic Fine Tuning). Re-activating the Automatic Fine Tuning means allowing the set to automatically tune to the optimum tuning position, for that Programme Number.

1 

Select the "AFC OFF" Programme Number which you want to return to Automatic Frequency Control (cancel the manual fine tuning).
"AFC OFF" Programme Numbers are indicated to you by the "■" symbol to the left of the Programme Numbers in the On-Screen-Display.

2

Push the "PRE." (PRESET) Button 4 times, setting the Preset menu to "MANUAL TUNE".

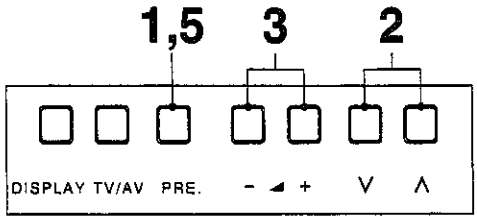
3

Push the Volume Up "+" and then the Down "–" Button, briefly.
The best tuning position is automatically memorised.
(In other words, manually tune away from the transmission, and then back to it.)

4

Push the "PRE." (PRESET) Button 5 times, to return the set to the normal viewing condition.

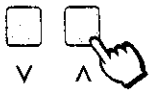
Programme Number Skip



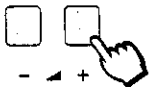
It is possible to skip Programme Numbers on which no TV stations are tuned.
The function is only effective when selecting Programme Numbers by pushing the Programme Number Up or Down Buttons either on the TV set or the Remote control.

1

Push the "PRE." (PRESET) Button 8 times, setting the Preset menu to "SKIP".

2 

Select a Programme Number you want to skip, by pushing the Programme Number Up "Λ" or Down "V" Buttons.

3 

Push the Volume Up "+" or Down "–" Button.
The displayed "OFF" condition changes to "ON".

4

Repeat Steps 2 and 3 for the remaining Programme Numbers for which the Skip function is desired.

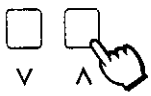
5

After Skip operation is completed, push the "PRE." (PRESET) Button (once) to return the set to the normal viewing condition.

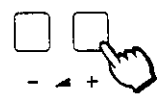
How to Cancel the Skip Function

1

Push the "PRE." (PRESET) Button 8 times, setting the Preset menu to "SKIP".

2 

Select the skipped Programme Number, by pushing the Programme Number Up "Λ" or Down "V" Buttons.

3 

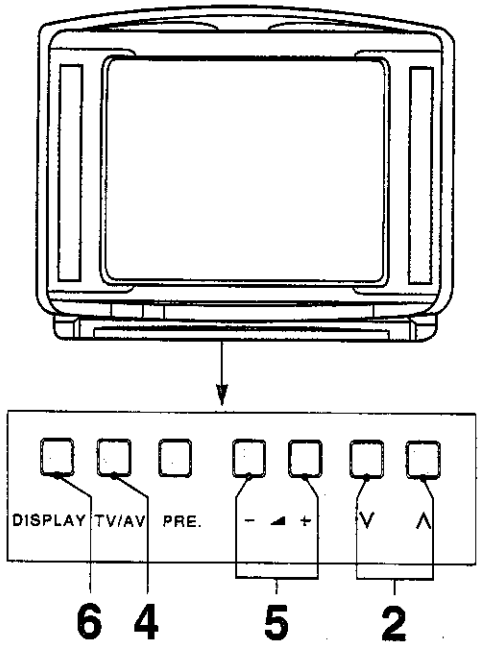
Push the Volume Up "+" or Down "–" Button.
The displayed "ON" condition changes to "OFF".

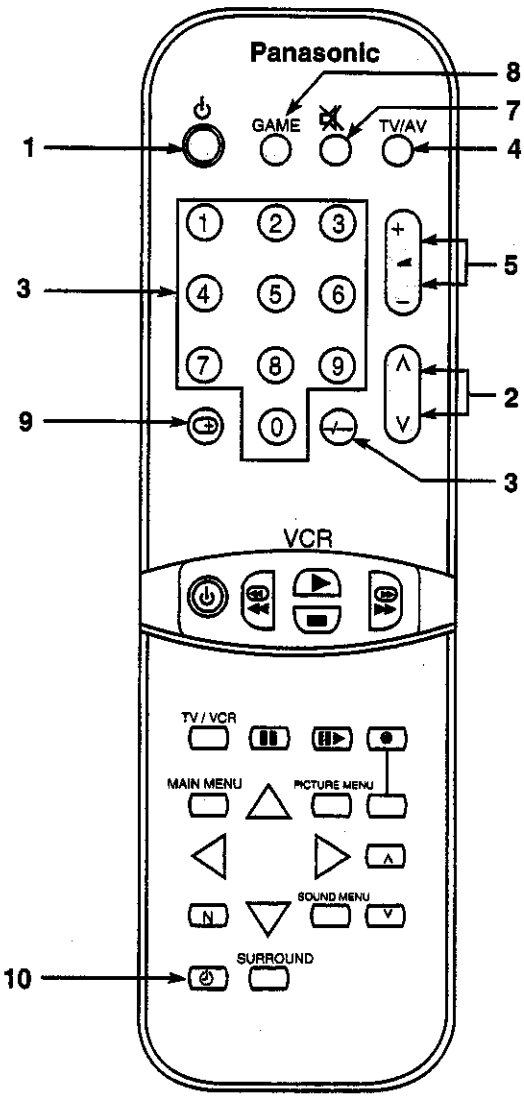
4

Repeat Steps 2 and 3, if you wish to cancel the Skip function on any other Programme Number.

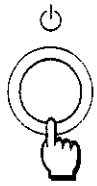
5

After the Skip Cancel operation is completed, push the "PRE." (PRESET) Button (once) to return the set to the normal viewing condition.





1



How to switch the power ON or OFF

The TV set must first be switched on at the wall outlet and at the Power Switch. (Refer to page 8).

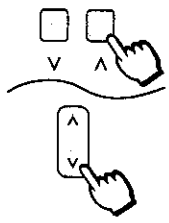
Push this button to turn the TV set ON, from STANDBY mode.

Push it again to turn the TV set OFF, STANDBY mode.

Note:

It is also possible to turn the TV set on STANDBY by pushing the "Direct Programme Number Selection" Buttons (0-9) and the "Programme Number Up or Down" Button, either on the set or on the Remote Control.

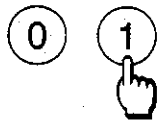
2



Programme Number Selection

Push the Programme Number Up "∧" or Down "∨" Button to select the next higher or lower Programme number.

3

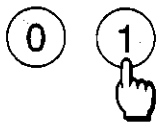


Direct Programme Number Selection (CH SELECT = POS.)

You can select the numbers directly by pushing "Number 0 – 9" button and the two digit Numbers by pushing "Two Digit" and "Programme Number" buttons.

Programme Number 8..... (8)

Programme Number 12..... (-/--), (1), (2)



Direct Programme Number Selection (CH SELECT = DIRECT)

You can select the number directly by pushing the corresponding programme number button.

Programme Number 8..... (8)

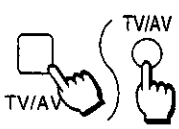
Programme Number 36..... (3), (6)

Programme Number 124.... (1), (2), (4)

Note:

When the Skip setting for Programme Number 100 through 125 is on, the channel selection time will be shorted, and thus you can not input three digits at a time.

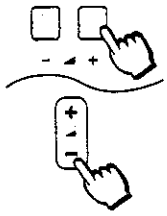
4



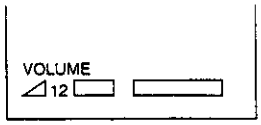
TV/AV Mode Selection

Push the "TV/AV" Button to select TV, AV1, AV2, AV3 input signal modes sequentially.

5 Volume Adjustment



Push the Volume Up "+" or Down "–" Button to increase or decrease the sound volume level.



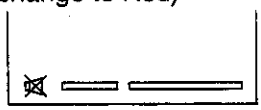
6 Display Button

By pushing the Display button various demonstrations and on-screen displays will appear.
Push the Display button a second time to halt the display/demonstration mode, and return the set to the nomal viewing condition.

Note:
When this button is pushed, the Picture and Sound Menus change to Picture (AUTO) and Sound (3D WOOFER).

7 Mute Button

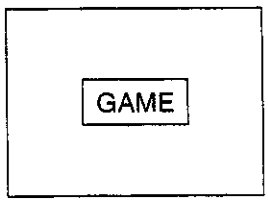
Push this button to mute the sound completely.
The "Mute" symbol will appear. (colour change to Red)



Push the button once again to restore the previous sound level, and cancel the mute.

8 GAME Button

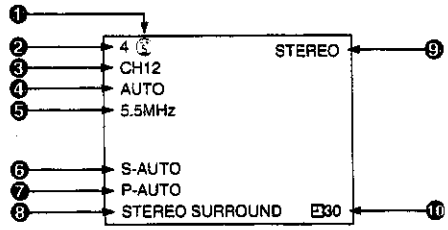
This button provides a convenient switching feature.
Push this button when playing a game to switch to the AV mode set in the Game mode (refer to page 34), and the picture and sound Menus set for the game are displayed.



Push again to cancel.

9 Recall Button

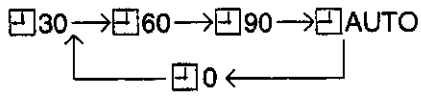
Push the "Recall" Button to display the current system status.
Push again to cancel.



1. VCR/GAME Indicator (Refer to page 35)
2. Programme Number (Refer to page 24)
3. Colour System (Refer to page 26)
4. Sound System (Refer to page 26)
5. Sound Menu (Refer to page 31)
6. Picture Menu (Refer to page 30)
7. Surround Mode (Refer to page 27)
8. Audio Mode (Refer to page 29)
9. OFF Timer (Refer to page 25))

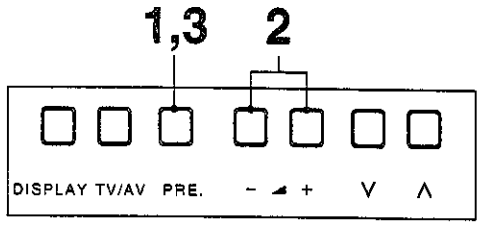
10 Off Timer Button

The TV set may be preset to switch to stand-by after a fixed period.
By pushing "OFF-Timer" Button, you can select the preset time; either "30", "60", "90" minutes or AUTO Mode.



Setting Off-Timer to AUTO mode.
If the set is not switched off when the TV station stops broadcasting, it will automatically go to Stand-by Mode after 5 minutes.

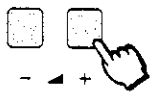
Note:
Off-Timer setting will not operate in AUTO mode when the Television set is in AV Mode.



Sound System Selection (Different countries use differing systems)

1

(This function is used only in the TV mode, and is not applicable in AV Mode)
When the sound is not clear or no sound is produced on a Programme Number, push the "PRE." (PRESET) Button 5 times, setting the Preset Menu to "SOUND SYS".

2 

Push the Volume Up "+" or Down "–" Button repeatedly until the optimum sound is obtained.
The sound system will change as shown.

4.5MHz↔5.5MHz↔6.0MHz↔6.5MHz

Note: These are different sound broadcast transmission systems applicable to differing countries.

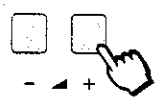
3

Push the "PRE." (PRESET) Button 4 times to return the set to the normal viewing condition.
The selected Sound System is automatically memorised.

Colour System Selection (Different countries use differing systems)

1

If a clear picture with current colours cannot be obtained when a Broadcast or AV signal is received, push the "PRE." (PRESET) Button 6 times, setting the Preset Menu to "COLOUR SYS". In AV mode it is only nesessary to push the "PRE." (PRESET) button once.

2 

Push the Volume Up "+" or Down "–" Button repeatedly until the optimum image is produced.
The colour system will change as shown.

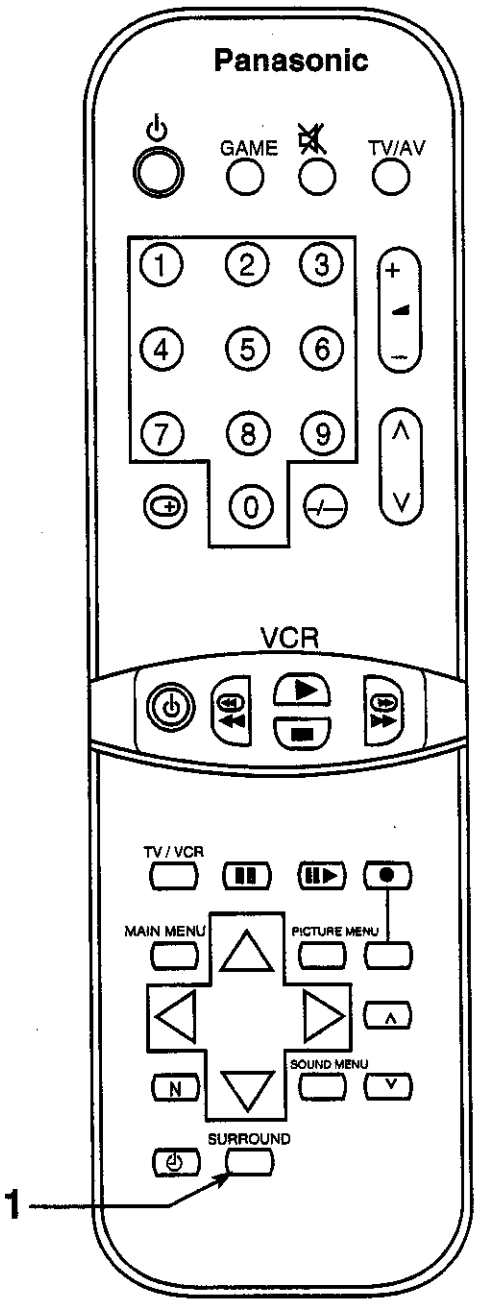
AUTO ⟷ PAL ⟷ SECAM
↕ ↕
NTSC 3.58 ⟷ NTSC 4.43

Note: PAL, SECAM and NTSC 3.58 are different colour signal broadcast transmission systems applicable to differing countries. NTSC 4.43 is a trick playback mode used in special VCR's to playback NTSC recorded video tapes through PAL television equipment.

3

Push the "PRE." (PRESET) Button 3 times, (In AV Mode it is only necessary to push the "PRE." (PRESET) button once.) to return the set to the normal viewing condition.
The selected Colour System is automatically memorised.

Surround Operation



1

Surround Button
The benefits of surround sound are enormous. With additional speakers you can be completely enveloped in sound; just as if you were at a concert hall or cinema.
The surround effect does operate without external surround speakers, but is enhanced when they are connected. Such near surround speakers should not be sited in direct proximity to the listeners.

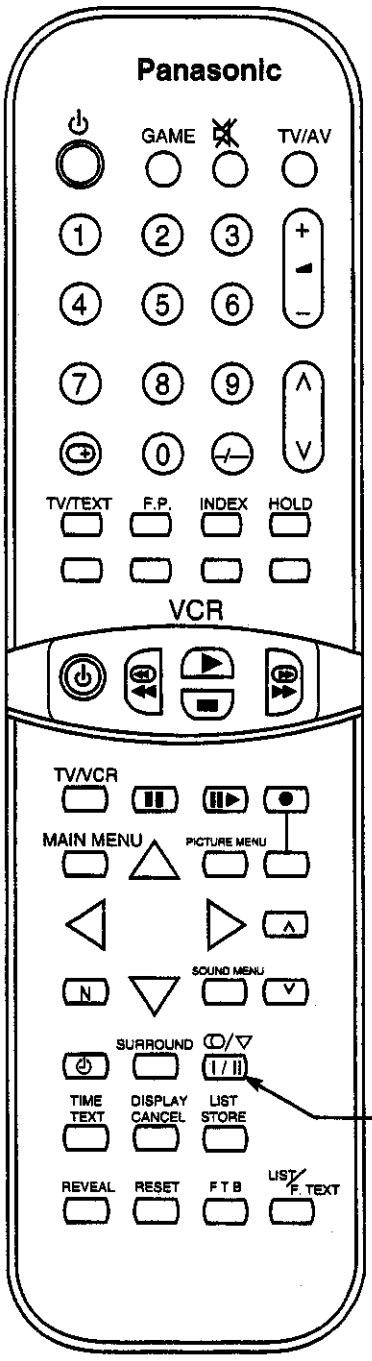
The surround mode for each sound menu can be stored in memory.

On-Screen display during surround mode.

	Type of broadcast	On-screen display
TV Mode	• MONO (Including STEREO switched to MONO by you) and BILINGUAL	MONO SURROUND ↕ SURROUND OFF
TV Mode	• STEREO (For TX-29GA30X)	STEREO SURROUND ↕ SURROUND OFF
AV Mode	• Select the AV mode (AV1, AV2 and AV3)	STEREO SURROUND → MONO SURROUND → SURROUND OFF

Note: If the stereo signal is poor or the receiving conditions are not optimum or if STEREO: MONO automatic switching occurs, it is recommended that "STEREO" switch to MONO (Refer to page 28) be used. If problems or unusual sudden effects are encountered in any of the surround modes, it is recommended that "SURROUND OFF" be selected.

Stereo Reception (For TX–29GA30X only).



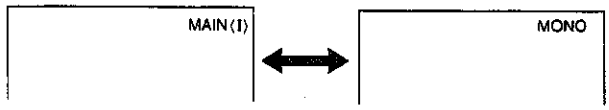
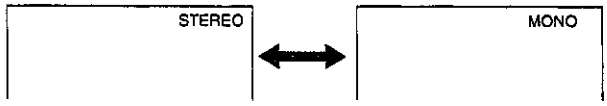
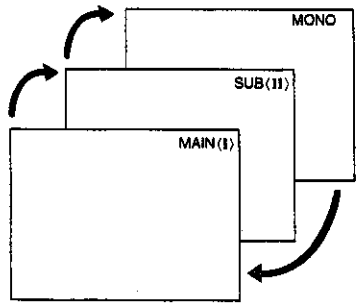
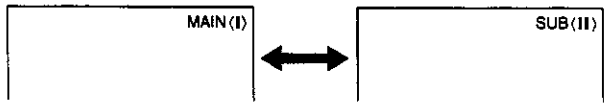
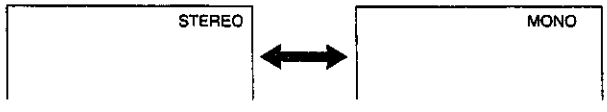
Stereo/Bilingual Sound Selection Button
Sound output modes can be selected by pushing the "Sound Selection" Button.

"STEREO" (if transmitted), "BILINGUAL" (if transmitted) and "MONO" modes can be selected using this button.

Note:

(1) The "A2 (German)" stereo/bilingual TV sound transmission system is used in the following countries; Australia, Malaysia, Thailand, Indonesia, etc.
The "NICAM" stereo TV sound transmission system is used in the following countries; New Zealand, Singapore and Hong Kong.

(2) If the stereo signal is weak or the receiving conditions are poor or if STEREO: MONO automatic switching occurs, it is recommended to switch to the "Mono" Mode.
When the broadcasting mode changes to "STEREO", "DUAL", or "MONO" after you have selected "MONO" mode, change over to either "STEREO" or "MAIN" Modes will be made automatically.
"DUAL" also known as "BILINGUAL" mode is not currently transmitted in some countries.

Type of Stereo	Type of broadcast	On-screen indication	Remark
NICAM Digital Stereo	Regular broadcast (Standard Audio)		Normal use
	Regular + NICAM MONOI (MAIN〈I〉)		You can select either the "MAIN〈I〉" or "MONO" audio signal.
	NICAM STEREO		You can select either the "STEREO" or "MONO" mode.
	NICAM DUAL MONO (MAIN〈I〉/SUB〈II〉)		You can select either the "MAIN〈I〉, SUB〈II〉 or MONO".
A2 (German) Stereo	Regular broadcast (Standard Audio)		Normal use
	BILINGUAL or DUAL MONO: MAIN〈I〉/SUB〈II〉		You can select either the "MAIN〈I〉" or "SUB〈II〉" audio signal.
	STEREO		You can select either the "STEREO" or "MONO" mode.

Note:

(1) Even when the contents of the receiving signal undergo changes, selection mode is kept intact.

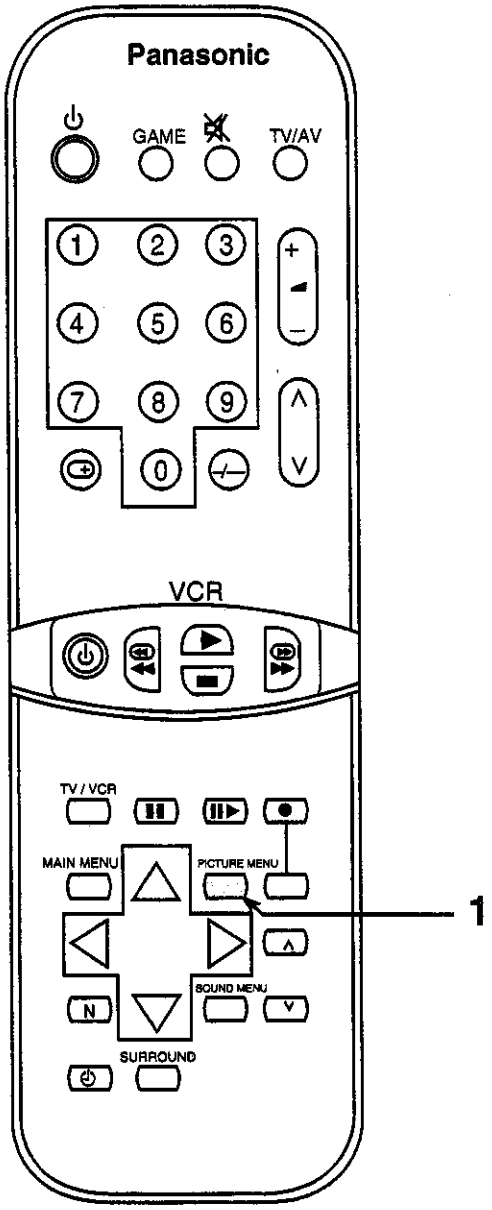
(2) When the receiving conditions deteriorate, listening will be easier if the mode is set to the "MONO" position, using the Stereo/Bilingual Sound selection button as shown on page 28.

(3) "DUAL", also known as "DUAL MONO" or as "BILINGUAL" is not currently transmitted in some countries.

Picture Menu Operation

1

By pushing the "PICTURE MENU" Button, you can sequentially select the Picture Menus as shown below.



On-Screen	Function
P-AUTO	As the TV video signal is processed for immediate reception, "Brightness", "Contrast", "Tint of colour", etc. are automatically adjusted to the optimum conditions.
P-STANDARD	For watching in normal (evening lighting) environments. This menu selects the normal level of Brightness and Contrast.
P-GAME	Reduces the contrast and sharpness when used in a game mode, and displays a picture which is easy on the eyes.

Helpful Hint

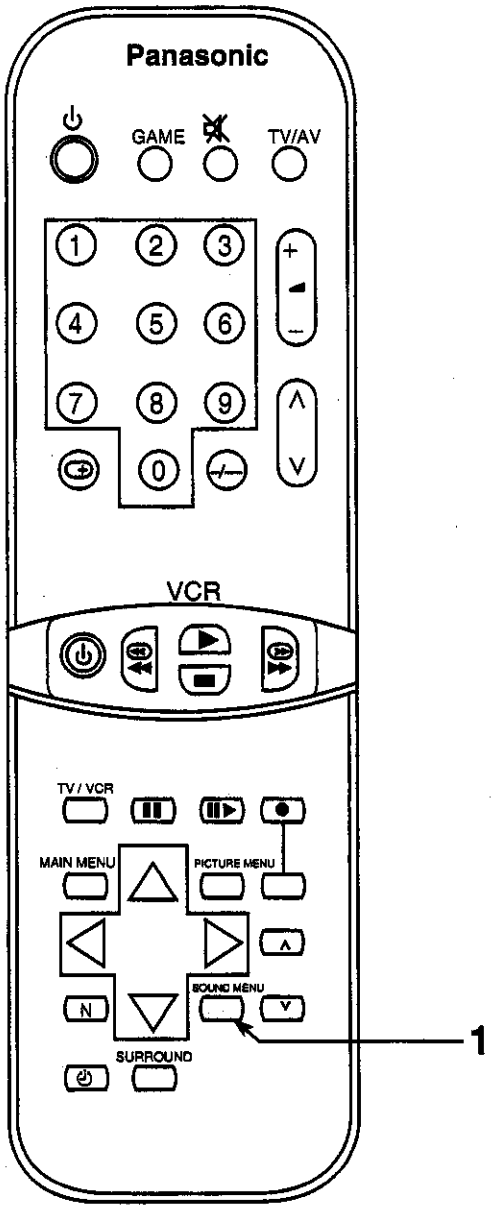
(1) You can change the level of each Function (COLOUR, NTSC-TINT, BRIGHT, CONTRAST, SHARPNESS) for each picture menu.
Please refer to pages 32 and 33.

(2) Picture menu mode will be memorized for each TV, AV1, AV2, AV3 and GAME mode.

Sound Menu Operation

1

By pushing the "SOUND MENU" Button, you can sequentially select the Sound Menus as shown below.



On-Screen	Function
S-AUTO	Sound and Music signals are altered and the best sound is automatically adjusted; sound (e.g. News and Human voice, etc.) is adjusted so as to be easy to hear and music is adjusted to give background impression.
S-STANDARD	For Normal use.
S-3D WOOFER	Amplifies the low frequencies and outputs the optimum sound.

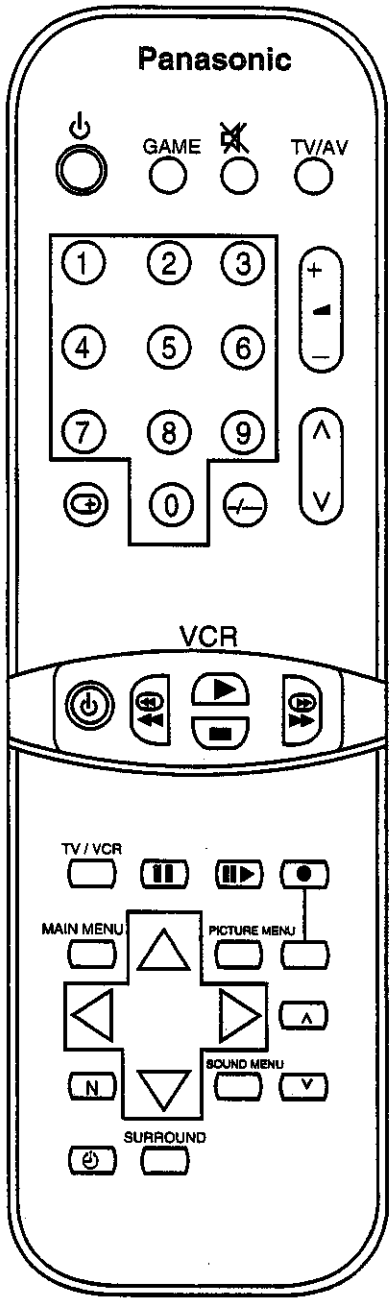
Helpful Hint

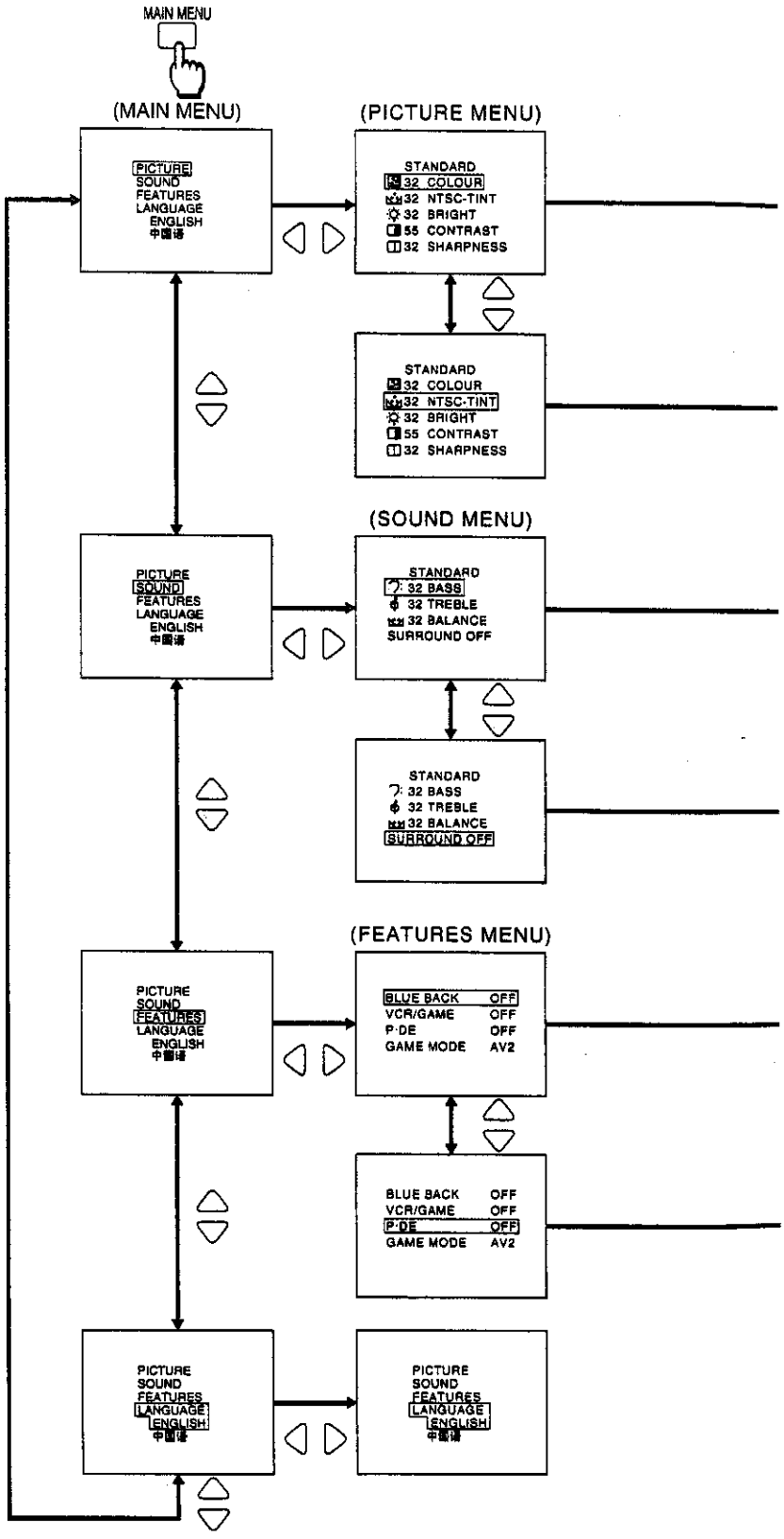
(1) You can change the level of each Function (BASS, TREBLE, BALANCE, SURROUND) for each Sound Menu.
Please refer to pages 32 and 33.

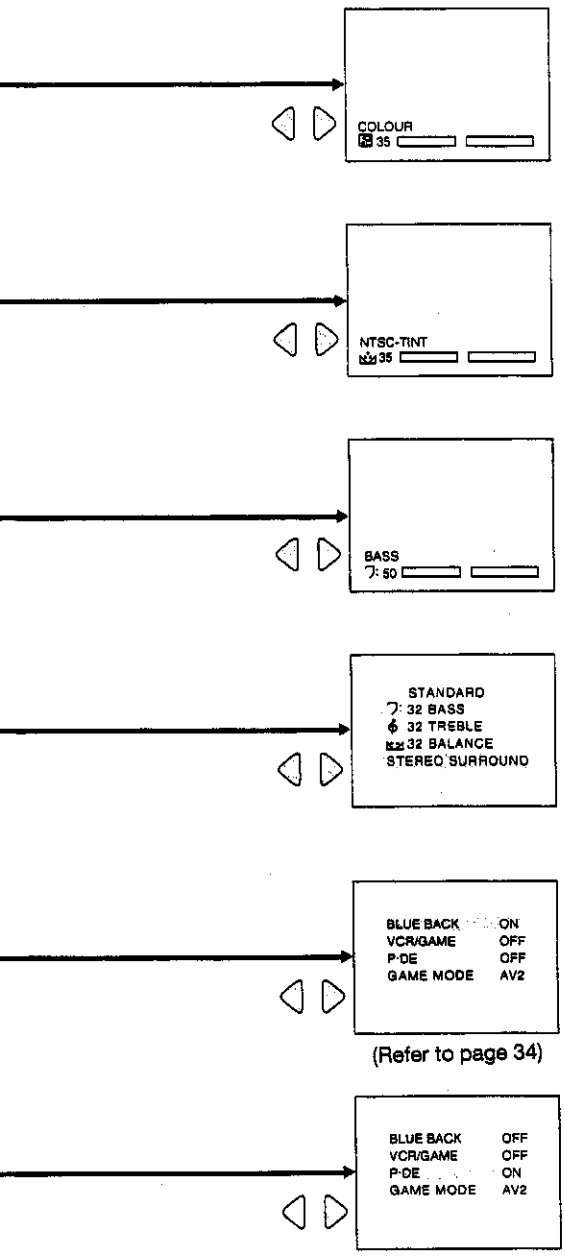
(2) Sound menu mode will be memorized for each TV, AV1, AV2, AV3 and GAME mode.

Main Menu Operation

The "MAIN MENU" screen will change as follows.
You can change/select the condition of each item on the menu.







(Refer to page 34)

Picture

Item	Push	Effect	Indicator
COLOUR	MAIN MENU	Less / More	COLOUR
NTSC-TINT	MAIN MENU	Greenish / Reddish	NTSC-TINT
BRIGHT	MAIN MENU	Darker / Brighter	BRIGHT
CONTRAST	MAIN MENU	Less / More	CONTRAST
SHARPNESS	MAIN MENU	Less / More	SHARPNESS

Note:
Even if the TV is not set to "NTSC" mode, "NTSC-TINT" will be displayed and level adjustment would be possible.
But it would not function.

Sound

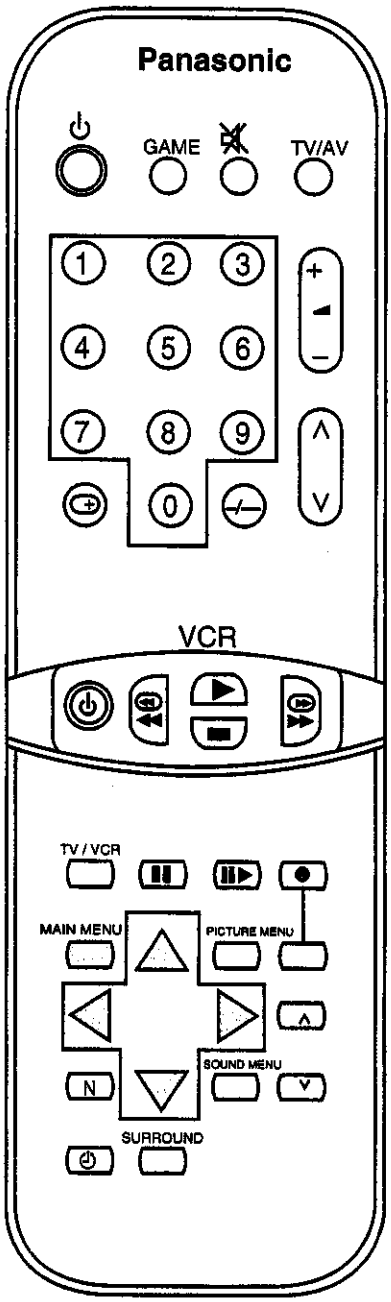
Item	Push	Effect	Indicator
BASS	MAIN MENU	Less / More	BASS
TREBLE	MAIN MENU	Less / More	TREBLE
BALANCE	MAIN MENU	Left SP. / Right SP.	BALANCE
SURROUND	MAIN MENU	Select	MONO SURROUND

Note:
When SOUND AUTO mode is selected in Sound Menu Operation, BASS and TREBLE can not be adjusted and they are not displayed.

Helpful Hint (N Normalisation)

By pushing the Normal "N" Button on the Remote Control while the Picture or Sound menu is displayed, the selected menu will be changed to the Normal Mode.
Normalisation will not occur if the menu is not displayed when the "N" Button is pushed.
The Normal mode is the factory preset condition. Returning to this original condition is called "Normalisation".

Main Menu Operation

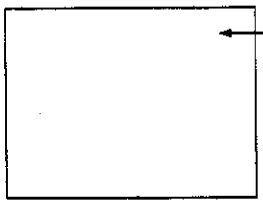


BLUE BACK Mode
When no picture signal is received, or the signal is weak, the screen reverts to a blue background colour and the Sound is muted.
Disable this Feature to continue watching very weak signals.

VCR/GAME Mode (Only for TV mode)
Reproduction of irregular signals, such as certain TV games and rental video tapes, may be improved.

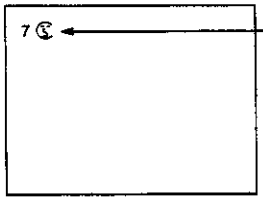
P•DE Mode (Picture Detail Enhancer)
The Picture Detail Enhancer System is designed to improve the picture sharpness. It should be OFF position to reduce picture noise during poor quality reception conditions.

GAME Mode
Select the AV mode (AV1~3) which connects the game.
When the game button is pushed, the unit will switch to the AV mode set, and will enter the picture menu and sound menu adjusted for the game mode.

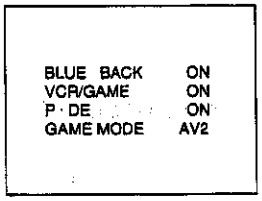


Blue if no input picture signal or input signal is weak.

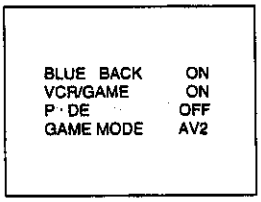
Note:
If BLUE BACK Mode is set on while a VCR signal is being viewed, selecting CUE or REVIEW may cause the screen to revert to the blue background colour. Disable this Feature to view correctly.



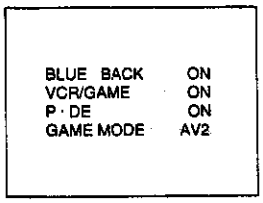
VCR/GAME Indicator



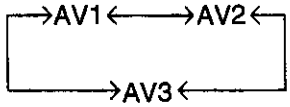
When the Picture Detail Enhancer System is ON, the picture will be sharper.



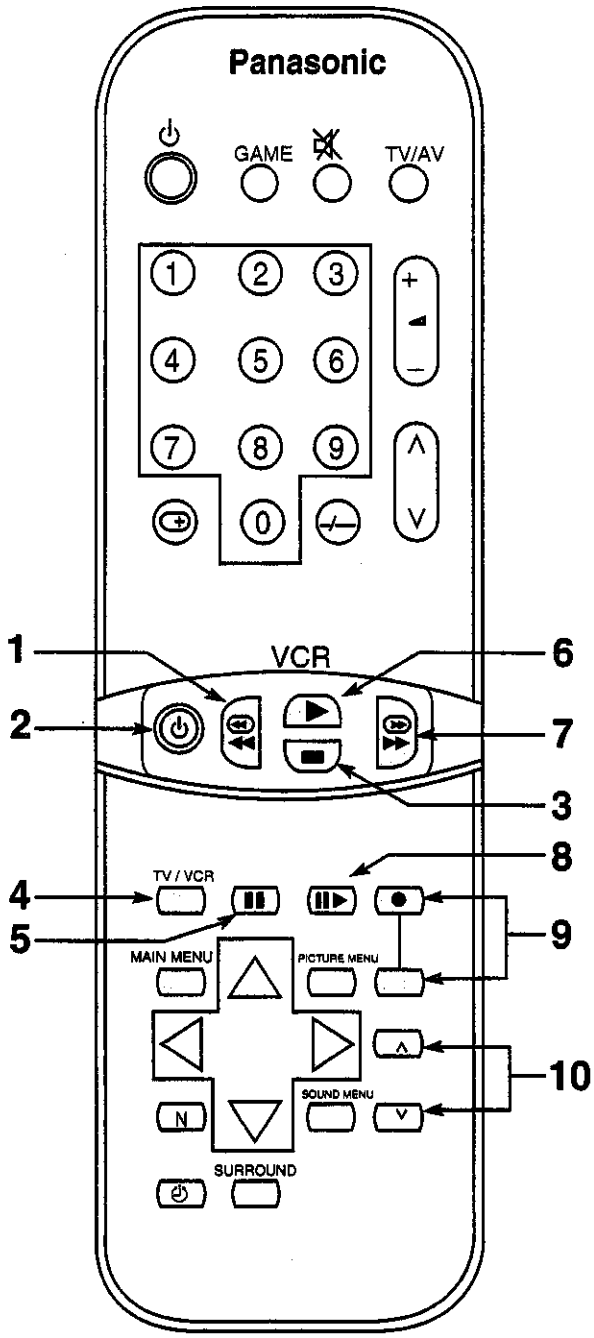
When the Picture Detail Enhancer System is OFF, picture noise will be softened and less sharp.



The game mode Indicator will change as follows.



Operation of the VCR



Your Remote Control is designed to be used with selected Panasonic/National VCRs.
Some model VCRs have different functions, so please refer to the individual VCR Instruction Booklet to ensure compatibility.

1 **Rew (Rewind)/Review Button**

2 **VCR Power Button**

3 **Stop Button**

4 **TV/VCR Selection Button**

5 **Pause/Still Button**

6 **Play Button**

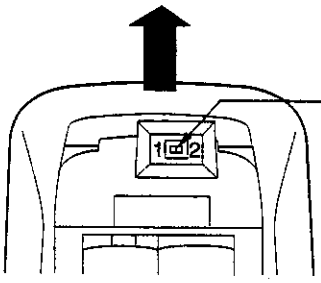
7 **FF (Fast Forward)/Cue Button**

8 **Still Advance Button**

9 **Rec (Record) Button**

10 **Programme Number Up and Down Buttons for VCR**

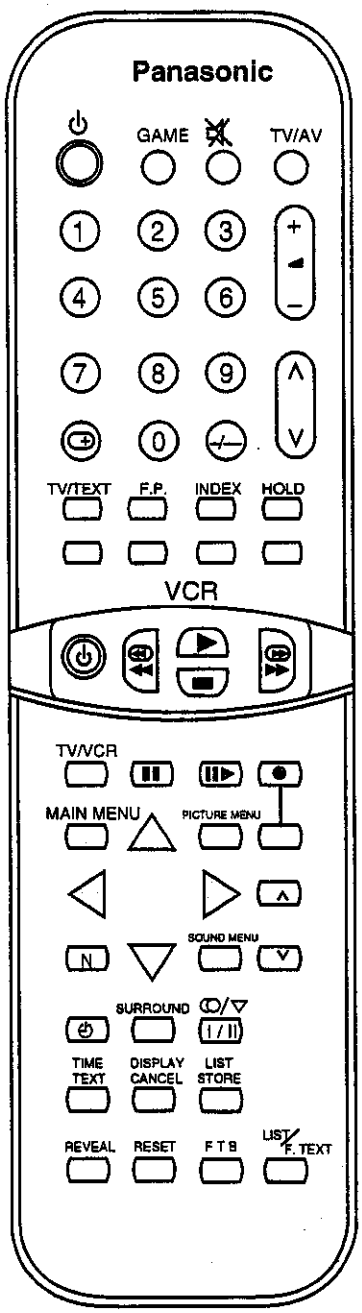
Open the cover
(Push down and Slide the cover out.)



(Rear Side)

VCR Mode Select Switch
When used with normal Panasonic/National VCR's, set this switch to "2".
If operation cannot be carried out, set the switch to "1".

Teletext Operation (for TX-29GA30X only)



Teletext features may vary depending on the Broadcasting Companies and is only available if the channel selected is transmitting Teletext.

When in teletext mode, the volume may still be altered to the desired listening level.

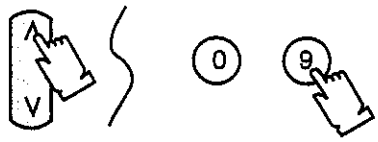
What is LIST mode?
In LIST mode, four differently coloured page numbers are situated at the bottom of the screen. Each of these numbers can be altered and stored in the TV's memory.

What is FASTEXT?
In FASTEXT mode, four differently coloured subjects are situated at the bottom of the display. To access more information about one of these subjects, press the appropriately coloured button. This facility enables fast access to information of the subjects shown.

What are the advantages?
* Page selection at the touch of a single Button.
* Easy to use step-by-step selection of the topical subject.
* Reduction of waiting time.
* Page status line at bottom of screen so you always know which button will take you to the desired information.

Note :
Although Teletext can be viewed in two window mode, the Teletext screen will not appear in both the main and sub pictures.

TV/TELETEXT mode
By pressing the "TV/TEXT" button, to change the TV/Teletext mode as follows:

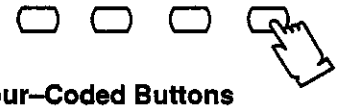


Page Selection
Page can be selected in two ways :
a) Press the Up/Down buttons to increase or decrease the page number by one.
b) By entering the page number, using 0–9 on the remote control.

Full / Top / Button
Press to expand the Top half of the page.
Press again to expand the bottom half.
Press again to return to normal (FULL) size.

Hold
Press to hold the current page.
Press again to cancel the hold.

Reveal
Press to reveal hidden words
e.g quiz page answers.
Press again to hide.



Colour–Coded Buttons
In FASTEXT mode these corresponds to the differently coloured subjects.
In LIST mode they correspond to the differently coloured page numbers.

List Store
In LIST mode the four page numbers can be altered for positions 1–10.
To do this, press one of the coloured buttons and enter the new page number. Press and hold List Store, the page numbers will change colour.

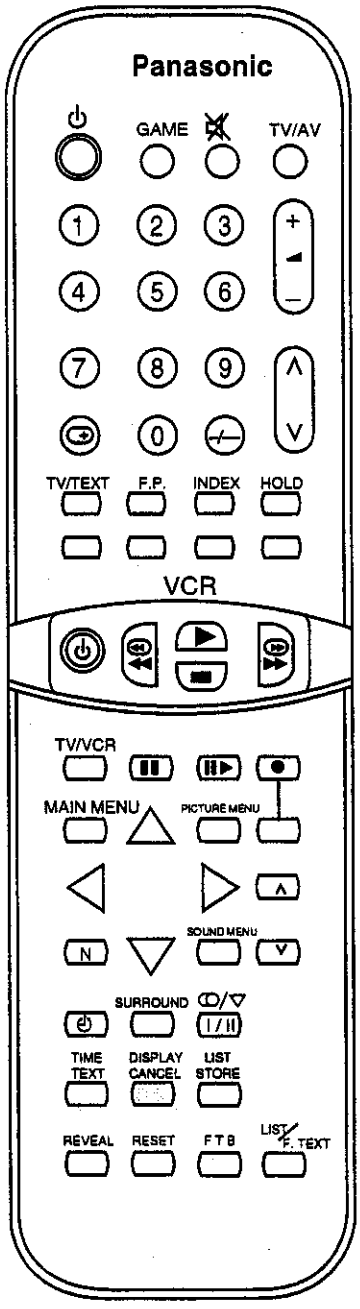
List/F.Text
Press to change from FASTEXT mode to LIST mode and vice versa. In FASTEXT mode four differently coloured subjects are displayed at the bottom of the page.
Press the appropriate coloured button to access more information about one of these subjects.

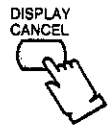
Favourite Page (F.P.)
Stores a favourite page in memory for instant recall. To store such a page, the TV must be in LIST mode, and the programme position must be from 1–10.
Press the Light Blue button, select the page number, then press List Store. The page number is now stored.
Press F.P. to recall this page.

Reset
Press in LIST mode to reset to the RED coloured page. Press in FASTEXT mode to reset to the index page.

Index
Press INDEX to return to the main index page.

DISPLAY CANCEL



1. 

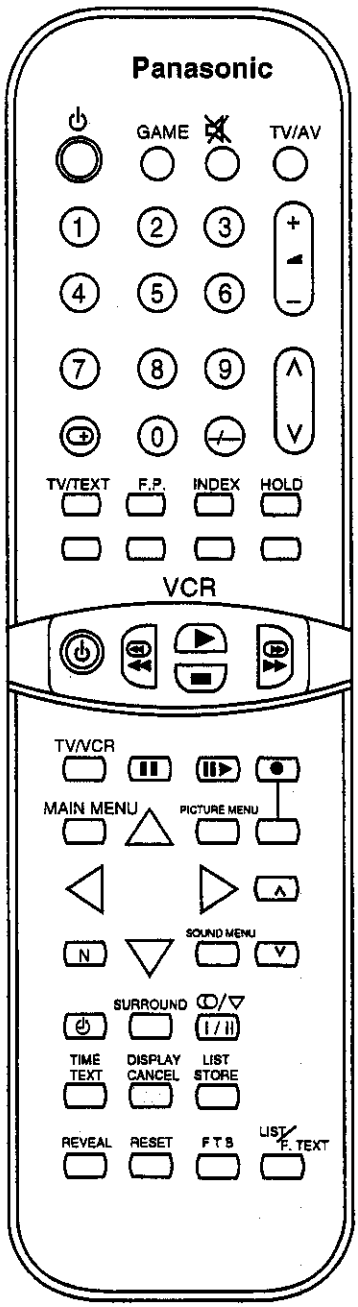
Press DISPLAY CANCEL to view the TV picture whilst searching for a Teletext page.
When found, the screen will display the page number at the top left.
Press DISPLAY CANCEL to view the page.
Press TV/TEXT twice to return to normal TV operation.

News Flash
When a news flash page has been selected, press DISPLAY CANCEL to view the TV picture, when an update is received, it will be displayed on screen.
Press DISPLAY CANCEL to remove update news.
Press TV/TEXT twice to return to normal TV operation.

Update
Press DISPLAY CANCEL to see the update of information on certain pages. When an update is received, the page number will be displayed at the top left of the screen.
Press DISPLAY CANCEL to view the page.
Press TV/TEXT twice to return to normal TV operation.

Note :
During two window mode Teletext, the Display cancel button is inoperative.

Sub Coded Page Access

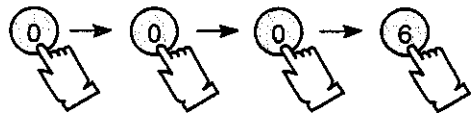


When teletext information exceeds more than one page, it may take sometime for the automatic changing of the sub pages to reach the sub page you require.
It is possible to enter your required sub page and continue watching the normal programme until the correct sub page is found.
Select the required page number using button 0–9.

1.

Press TIME TEXT "T***" will be displayed (top left of the screen).

2.



Enter desired sub page number before the "T***" dissappears.

To select page 6 enter 0, 0, 0 and 6.

3.

Press DISPLAY CANCEL to view a normal TV programme.

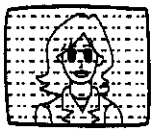
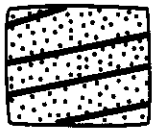
Helpful Hint

When the page is available, press DISPLAY CANCEL to view the page.

To clear the page perform one of the following :
a. Select a new page number.
b. Press TV/TEXT until the normal TV operation.

Troubleshooting

Before you call for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Checks
Picture	**Sound**	
Snowy Picture	Noisy Sound	Aerial Location, direction or Connections
Multiple Image	Normal Sound	Aerial Location, direction or Connections
 Interference	Noisy Sound	Electrical Appliances Cars/Motorcycles Fluorescent Lamps
Normal Picture	No Sound	Volume (Check whether the mute function has been activated on the Remote Control.)
No Picture	No Sound	Not plugged into AC outlet Not switched on Contrast and Brightness/Volume setting (Check by pushing the Power Switch or Stand-by Button on the Remote Control.)
No Colour	Normal Sound	Colour Control
 Scrambled	Normal or Weak Sound	Retune Channels
Coloured Patches	Normal Sound	Magnetic interference from unshielded equipment TV set moved while "ON" Turn the TV set off for 30 mins, using the "Power" Switch on the TV set.
No Colour	Noisy Sound	Sound System (Refer to page 26) Colour System (Refer to page 26)

Specifications

Power Source

AC 110-240 V, 50/60 Hz

Power Consumption

TC–29GA30R	TX–29GA30X
170 W	180 W
Stand–by condition 3.5 W	Stand–by condition 3.5 W

Receiving System

21 Systems		Function
1	PAL B, G, H	Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders
2	PAL I	
3	PAL D, K	
4	SECAM B, G	
5	SECAM D, K	
6	SECAM K1	
7	NTSC M (NTSC 3.58/4.5 MHz)	
8	NTSC 4.43/5.5 MHz	Playback from Special VCR's
9	NTSC 4.43/6.0 MHz	
10	NTSC 4.43/6.5 MHz	
11	NTSC 3.58/5.5 MHz	
12	NTSC 3.58/6.0 MHz	
13	NTSC 3.58/6.5 MHz	
14	SECAM I	
15	PAL 60 Hz/5.5 MHz	Playback from Special Disc Players and Special VCR's
16	PAL 60 Hz/6.0 MHz	
17	PAL 60 Hz/6.5 MHz	
18	SECAM 60 Hz/5.5 MHz	
19	SECAM 60 Hz/6.0 MHz	
20	SECAM 60 Hz/6.5 MHz	
21	NTSC 50 Hz/4.5 MHz	

Receiving Channels

Regular TV

VHF BAND

2-12	(PAL/SECAM B, K1)
0-12	(PAL B AUST.)
1-9	(PAL B N.Z)
1-12	(PAL/SECAM D)
1-12	(NTSC M Japan)
2-13	(NTSC M U.S.A)

UHF BAND

21-69	(PAL G, H, I/SECAM G, K, K1)
28-69	(PAL B AUST.)
13-57	(PAL D, K)
13-62	(NTSC M Japan)
14-69	(NTSC M U.S.A)

CATV

S1-S20	(OSCAR)	S21-S41	(HYPER)
1-125	(U.S.A. CATV)	Z1-Z37	(CHINA)
C13-C49	(JAPAN)	5A, 9A	(AUST.)

Specifications

Tuning System

Frequency synthesizer
Auto Search Tuning
POS (Position) : 100 Position
DIRECT : 125 Position

Picture Tube

Overall Picture tube measured diagonally	72 cm
Viewable Picture tube measured diagonally	68 cm
CRT Deflection	108°

Audio Output

33 W (10 W + 10 W + 13 W)

Headphones

Impedance 8 Ω

Aerial Impedance

75 Ω Unbalanced coaxial

Video/Audio Terminals

AV 1, 2, 3	S-Video In	Y: 1.0 Vp-p, 75 Ω C: 0.3 Vp-p, 75 Ω
	Video In	1 Vp-p, 75 Ω
	Audio In	Approx. 400 mV 47 KΩ
Monitor Out	Video Out	1 Vp-p, 75 Ω
	Audio Out	Approx. 400 mV 1 KΩ
Surround Terminals Impedance	8~16 Ω	
3D Woofer Impedance	6 Ω	

Accessories Supplied

3D Woofer Speaker
Remote control Transmitter — TC-29GA30R (EUR 51912), TX-29GA30X (EUR 51913)
R6 (AA) Battery × 2

Dimensions (W × D × H)

698 mm X 477 mm X 594 mm (with 3D Woofer 32 mm)

Weight (Mass)

43.0 kg (Net) (with 3D Woofer 2 kg)

Note:
Design and Specifications are subject to change without notice.
Weight and Dimensions shown are approximate.

Customer's Record

The model number and serial number of this product can be found on its rear cover. You should note this serial number in the space provided below and retain this book plus your purchase receipt as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number _____ Serial Number _____

Matsushita Electric Industrial Co., Ltd.

Central P.O. Box 288, Osaka 530-91, Japan

Printed in Japan
S0895